

Desert

NOVEMBER, 1958 . . 35 Cents





WILD BUCKWHEAT

By ALICE ZIMMERMAN
Santa Ana, California

I cannot sleep for listening to the rain,
Like slipped footsteps of a friend long
gone
Now back again,
And thinking of wild buckwheat on the hill.
Now it will drink its fill.

For long hot months the savage, searing sun
Besieged the thirsty hill with blistering heat,
Till life in all the tender plants was done.
Only the buckwheat would not grant defeat.

Passive it gathered in the golden rays
That made it brown and beautiful, until
It grew so dry, I almost feared to touch
The sunburned blossoms that I loved so
much.

Oh, blessed long-awaited rain.
Now the bright brittle tops will disappear;
The seeds will scatter;
And the stiff stems grow green again
Under the soft persuasion of the rain.

MAGIC DESERT DAYS

By GEORGIA JORDAN
San Diego, California

The Sun and Desert Air spin magic with
their hands,
A veil of amethyst as thin as fairies chose.
It tints the crystal on the hot, reflecting
sands
To jewel tones of purple, lavender and rose.
I too absorb this airy film of violet rays,
Receiving Nature's gift of health from
Desert Days.

Talents

By TANYA SOUTH

Nothing is buried. What you are
Reflects in everything you do,
By changing pace and tone and hue.
You of yourself can make or mar
Whatever type of life you fill,
By what you are, and what you will.

Prayer of a Navajo Mother

By INEZ H. GOSS
Prescott, Arizona

My baby girl, my dark-eyed one,
We are so rich—we have the sun;
We have the snow and summer rains,
We have the mountains and the plains.

Our hogan small and snug and warm;
Your cradleboard keeps you from harm,
Protected by its polished bows,
Cushioned by bark of sweet cliff-rose.

My prayer is not for greater wealth,
But only "May you walk in health;
May hunger always pass you by;
May beauty by your pathway lie."

THE HARPS

By IRENE E. PAYNE
Las Vegas, Nevada

Sometimes at dawn I hear Aolian harps,
A faint sweet music with a haunting strain
So far away the muted sad refrain
Escapes my ear.
It is full strange that here
Amid the barren and the blasted peaks,
The desert reaches that no verdure seeks,
The pipes of Pan should tinkle still.

Perhaps it is the little winds that run
Along the pass to herald waking sun.
Perhaps it is the wings of birds
I strain to hear.
Or yet the half heard music might arise
From sun rays stretching in the quiet skys.
I know not how the singing starts,
But in the quiet dawn
I hear the minstrel harps.

THE DESERT

By ENOLA CHAMBERLIN
Los Alamitos, California

Grandfather walked the desert,
Pricked oxen with a goad;
Fought sand and heat and darkness,
And often made his road.

Father pushed his horses
From dawn to dark to try
To make it to a waterhole
Before his barrels went dry.

Grandfather knew the desert,
Its moods, its quiet stars;
And Father took the time to drink
At sunset's crimson bars.

While I who cross the desert
With hurry as my need,
Relinquish all its glories
To the subtle robber speed.

DESERT DAWN

By MIRIAM R. ANDERSON
San Bernardino, California

Expectancy pervades the quickened air,
Bird orchestras tune softly, then are stilled;
And silence marks the moment, for the clear
Pure essence of the day to be fulfilled.

Immensity bestrides the mountain peaks,
The desert sands, the sky—the first warm
ray
Of sun jewels glance to touch the edge of
space—
And dawn, gold-handed, sweeps the night
away.

Publisher's Notes

This month's cover photograph, depicting a happy family of desert vacationers at White Sands National Monument, New Mexico, heralds the return of the "visiting season" to the Desert Southwest. This is the month when increasing numbers of week-ending rockhounds make their avocational jaunts in search of agate, treasured turquoise, banded jasper, Apache tears, and hundreds of other desert gems. This is the month when thousands of Easterners, feeling the frosty approach of winter, dream of Southwestern warming ovens—Tucson, Palm Springs, Scottsdale and a hundred other chosen sun spots.

And this is the month when the desertland itself is making its change-over from the sear-of-summer to the winter-welcome phase of its many moods.

And while the seasonal changes of our desert country go along their way, the editorial staff of *Desert Magazine* goes along its way, thinking three months ahead of today. (Conversely, it was three months ago—in the 112 degree heat of late August—that we were planning this November issue of *Desert*.)

* * *

Some of our plans ahead include the addition of full-color art on the back cover, some color ink on the inside pages, and gradual changes in the format and design of our many feature departments.

To develop a better and bigger *Desert Magazine* editorially, there is need for a corresponding growth in *Desert's* circulation and advertising sides. Any increment in circulation and advertising will be utilized to expand the magazine's value as a readable, enjoyable journal for you.

* * *

A survey questionnaire was mailed out last month to one out of each 10 of *Desert Magazine's* subscribers (they were picked at random from our circulation files). Results of this reader sampler are already beginning to return to editor Randall Henderson's desk. Compilation of the questionnaire will be reported to you either in January or February, depending on how promptly the replies are mailed.

* * *

We hope an ever-increasing number of you will feel, as we here at the *Desert Magazine* pueblo feel, that *Desert* is the ideal inexpensive Christmas gift. Your publisher promises that those who receive *Desert Magazine* as a gift this coming year will 12 times bless the giver, for *Desert* will continue to bring into focus the beauty and the wonder and the historic past of our Southwest—in more than 400 pages of enjoyable, authentic and wholesome reading between now and a year hence.

CHARLES E. SHELTON
Publisher

ABOUT THE COVER . . .

White Sands National Monument — a 140,000-acre playground of gleaming white sand located 15 miles southwest of Alamogordo in south-central New Mexico. The Monument's slowly shifting dunes represent the largest deposit of surface gypsum in the world. Chuck Abbott of Tucson is the cover photographer.



Volume 21

NOVEMBER, 1958

Number 11

COVER	White Sands National Monument By CHUCK ABBOTT	
POETRY	Prayer of a Navajo Mother and other poems	2
GHOST TOWN	Chinese Ghost Town in the Humboldt Range By NELL MURBARGER	4
CALENDAR	November events on the desert	6
ART OF LIVING	Silence—the Desert's Most Precious Gift By ELEANOR N. FOWLER	8
TRAVEL	Trail to the Canyon of Turquoise Water By RANDALL HENDERSON	9
FICTION	Hard Rock Shorty of Death Valley	12
INDIANS	From Pueblo to Classroom, by LaVON TEETER	14
INDIANS	Pueblo Portraits, by JOHN L. BLACKFORD	17
FIELD TRIP	Mojave Desert Opal Diggings By HAROLD O. WEIGHT	18
LETTERS	Comment from Desert's readers	22
CLOSE-UPS	About those who write for Desert	22
HISTORY	Jerome, by JOSEF and JOYCE MUENCH	23
NATURE	In the Land of Sagebrush By EDMUND C. JAEGER	24
EXPERIENCE	Emily of the Desert Trails By DOROTHY ROBERTSON	27
ASTRONOMY	Hobbyists Who Scan the Desert Night Sky By GASTON BURRIDGE	29
DESERT QUIZ	A test of your desert knowledge	30
NEWS	From here and there on the desert	32
MINING	Current news of desert mines	36
HOBBY	Gems and Minerals	38
LAPIDARY	Amateur Gem Cutter, by DR. H. C. DAKE	41
COMMENT	Just Between You and Me, by the Editor	42
BOOKS	Reviews of Southwestern literature	43
PHOTOGRAPHY	Pictures of the Month	back cover

The *Desert Magazine* is published monthly by Desert Magazine, Inc., Palm Desert, California. Re-entered as second class matter July 17, 1948, at the postoffice at Palm Desert, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1958 by Desert Magazine, Inc. Permission to reproduce contents must be secured from the editor in writing.

CHARLES E. SHELTON, Publisher

RANDALL HENDERSON, Editor
BESS STACY, Business Manager

EUGENE L. CONROTTO, Associate Editor
EVONNE RIDDELL, Circulation Manager

Unsolicited manuscripts and photographs submitted cannot be returned or acknowledged unless full return postage is enclosed. *Desert Magazine* assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised. Subscribers should send notice of change of address by the first of the month preceding issue.

SUBSCRIPTION RATES

One Year.....\$4.00 Two Years.....\$7.00
Canadian Subscriptions 25c Extra. Foreign 50c Extra

Subscriptions to Army Personnel Outside U. S. A. Must Be Mailed in Conformity With
P. O. D. Order No. 19687

Address Correspondence to Desert Magazine, Palm Desert, California

The railroad work for which they came to this country came to a close; unfriendly white men barred them from jobs in the towns—it was then that the Chinese laborers turned to mining. One of their camps was in American Canyon near Lovelock, Nevada . . .



By NELL MURBARGER
Map by Norton Allen

Chinese placer miner carrying flat-type rocker used for mining gold in the early days. Photo courtesy Nevada State Historical Society.

CHINESE GHOST TOWN

in the
Humboldt Range

SADIE ERNST was telling me of pioneer times in Nevada, and mentioned that her mother had grown vegetables and sold them to a Chinese colony 12 miles south of Unionville. Seventy-five years ago it had been quite a settlement, with stores and a joss house.

This chance remark by my Unionville friend launched a search for information that extended over five years, for this ghost town quest was one of the dimmest, historically, I have followed—and one of the most fascinating.

Placer gold was discovered in American Canyon by white men in 1871. The paystreak, however, was beneath so much overburden the discoverers did not regard it as feasible to work the claims themselves. Instead, L. F. Dunn and his associates, who owned most of the claims in the canyon, leased the property to Chinese.

Chinese laborers were highly unpopular in Nevada at this time. With completion of the Central Pacific Railroad, thousands of coolie employees were turned loose upon the countryside, ready to take jobs at a fraction of the wages commanded by white workmen.

Some of the mining camps tolerated

the Chinese as wood-cutters, but rebelled if they aspired to better occupations. Other towns organized Anti-Asiatic Leagues, and evicted Orientals on general principle. As a consequence, the early 1870s found these ex-railroaders willing to work at anything that gave promise of supplying their daily rice — and the opportunity to mine placer gold in Nevada's Humboldt Range came to them as manna from the gods.

According to Alfred Merritt Smith, former Nevada state mining engineer, the main period of activity in American Canyon was from the 1870s to 1900, although a few Chinese continued placering there until 1910, and the last resident of the canyon colony died around 1927.

"When I visited American Canyon in the early 1930s, the old joss house was still standing, and the old sign was hanging over the door," Smith told me. "It was an elaborate sign, with Chinese characters painted in black and red and gilt . . ."

An article by Ernest G. Locke in the *Mining and Scientific Press*, issue of Sept. 6, 1913, gave details of the American Canyon operation:

"Twenty years ago, American Canyon in Nevada, was the scene of great

activity. Hundreds of Chinamen were working the gravels, and recovering millions in gold dust. Ample evidence remains in the hundreds of shallow shafts and the piles of worked gravel spread over not less than two miles of the river bed.

"The ground was leased to a Chinaman on a royalty basis. It is said he brought in hundreds of his countrymen to whom he sublet the ground in blocks of 20 feet square. Each lessee sunk a shaft to the paystreak and mined out the ground contained in the lease. Thousands of piles of tailings attest the energy with which work was conducted. An old Chinaman still living on the ground—the last of 500—states that each block of ground 20 feet square produced from \$1500 to \$3000 in gold-dust and nuggets . . .

"It is a difficult matter to make an estimate of the aggregate amount of gold taken out of American Canyon. Chinamen are secretive as to their gold, but . . . Wells, Fargo Express Company has a record of several millions of dollars worth carried out by it. F. L. Ransome gives a reported output of \$10,000,000, and others believe \$20,000,000 to be nearer correct . . ."

According to Locke, the gold or-

iginated in a range of porphyry hills through which an old river cut its bed. "The paystreak," stated Locke, "lay on a false bed of clay, generally about 60 feet from the surface . . . A shaft nearly 200 feet deep was sunk through gravels to the limestone. The paystreak, however, still retained its position at about 70 feet from the surface; little or no gold was found below the false bedrock, and none on the limestone."

Even if the production records were grossly exaggerated, this was a lot of yellow metal to have been recovered from beneath 60 to 70 feet of overburden by miners employing only primitive tools and hand labor, and hampered by lack of water! Actually, it was an incredible mining accomplishment.

Last August I located a man who vividly remembered the colony in the Canyon! Born in Unionville in 1879, and now a resident of Reno, Joe Thornton is an authority on the early history of his birthplace and its environs. From the early 1890s to 1904, his memory of the Oriental settlement is as clearly cut as a steel engraving. During these years Joe lived on a ranch in Buena Vista Valley, near Unionville, and made almost weekly trips to the canyon with team and wagon, hauling big loads of pigs, turkeys, ducks and chickens which always found a ready market.

Since there was little or no water in much of the canyon, Joe said, many of the Chinese miners had to carry

water for placer operations. For this purpose they used a yoke laid across their shoulders, with five-gallon cans suspended from each end. Some of them carried water as far as a mile—and they trotted all the way.

"They didn't get much gold out of the overburden, but after they had worked their way through to the false bedrock, they did well," said Joe. "One nugget worth \$1000 was found in the canyon, and I saw many as large as my thumb. Pieces the size of peas and wheat grains were common.

"After sweeping the bottom of the shaft clean with a small bamboo broom, they would claw back into the walls of the shaft as far as they could reach with a shovel or hoe—but never so far that they could not look up and see the sky. If they had reason to think they had missed any gold in the first running of the gravel, they ran it through a second time. They were good miners and hard workers.

"There were several Chinese stores in the canyon and Pete Anker and Steve Young frequently hauled in loads of supplies from Lovelock," continued Joe. "Almost all the miners were bachelors. I don't remember seeing but two Chinese women there. Every man wore his hair in a long black queue; and when he was working wound it around his head and held it down with his hat. Many wore the conical straw hats of the coolies.

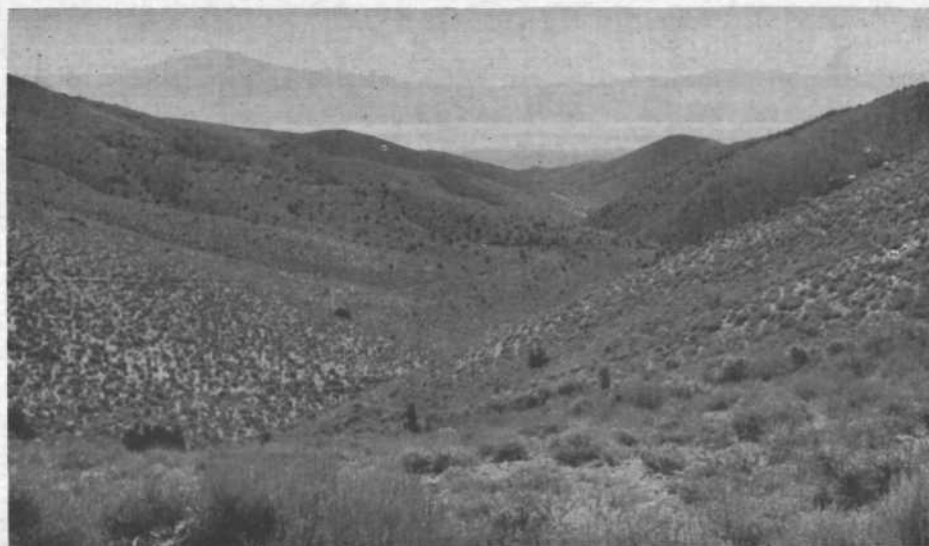
"Most of the miners lived in dugouts or small rock cabins heated with makeshift cookstoves. In the earlier

days they cooked over open fires; but when I knew them, nearly every cabin or dugout had its ramshackle stove. For the most part the miners slept on pallets or straw with a ragged blanket or two. For light they used small metal lamps which had no chimneys and resembled the old-time Greek lamps. I think they burned peanut oil.

"They used peanut oil in many other ways, especially in cooking. Their diets were rather restricted. Some had gardens about 10 feet square, which provided part of their living. They were very fond of the brown Bayou beans. In order to utilize these to the fullest advantage, they would saturate a burlap sack with water, spread the dry beans over it evenly, and cover with another water-soaked sack. This was kept moist for several days, causing the beans to sprout. When they cracked open and the skins came off, they were ready to be cooked and eaten, sprouts and all. They also ate much rice, and imported from China both canned and dried fish, used mostly for seasoning the rice. Sometimes they would take a piece of boiled fish and barely touch it to the top of their rice, then return it to the pot for future use . . ."

Joe remembered the joss house well. "In addition to the temple idol, the whole place was decorated with peacock feathers, gilt, red lacquer and pictures of dragons and devils. When we passed by we often could see the Chinese priest on his knees before the





Looking down American Canyon across Buena Vista Valley to East Range in background. Ruins of Chinese mining settlement are near canyon mouth.

idol, with his hands pressed together in front of him, bowing and speaking. Sometimes large groups of men would meet at the joss house, and then everyone would bow to the idol, and speak."

Ed Green, who has lived in the Lovelock area for 65 years, was my guide to the old Chinese ghost town. It was clear and pleasantly warm as we left Lovelock and headed northeast on U.S. 40. After quickly covering the 14 paved miles to Oreana, we turned east on a graveled road which

took us across the wide alluvial fan at the west base of the Humboldt Range, and up through Limerick Canyon. Nine miles from Oreana, Ed directed me to halt while he considered which route we should take.

While my companion studied the situation, I reveled in the fragrance of the juniper-grown hills, and the wonder of the desert day. I could hear the calling of mourning doves from half-a-dozen points, and in the brush beside the road a chukar partridge

family was discussing something important.

Ed decided we should go straight ahead, over the ridge, and so enter American Canyon from its head.

"It's a steep pull on this side for about 200 yards, and it may be a little rocky, but it'll save us pulling up the canyon through the loose wash gravel," he explained.

In another mile and a half the road forked again. We took the older and more rutted trail to the left, and soon reached the summit of the Humboldts.

There's a grand feeling of exhilaration in standing on a height from which it is possible to see more than a full day's journey in any direction. To the west stretched the road we had ascended that morning—a thin white line etched through the gray sage to the Humboldt Valley, where our eyes leaped the river and traveled on to racked tiers of blue mountains—the Trinitys, the Seven Troughs, the Antelope Range, the Kammass.

From the eminence of the pass we saw the full length of American Canyon, and the sinuous course of our road as it inched down the north shoulder of the canyon to disappear in its depths. Beyond the canyon's slack mouth spread the tawny-white expanse of Buena Vista Valley, over which rose more tiers of blue and purple mountains. Shimmering and rippling under the heat of mid-morning, the white flat resembled a mighty dragon drowsing in the sun. One could almost imagine it swinging its great head to hiss indolently at an intruder, before slithering back into some geologic era of the past.

With the car in low gear and the brake pedal nudging the floorboards, we eased down the steep trail into the canyon. We passed a small cabin, temporarily untenanted, and the camp of American Canyon Mine, where ponderous dragline equipment stands rusting in the yard. The road is very poor—rutted and washed, and full of rocks and roots—and I was thankful for Ed's foresight in routing us down the canyon, rather than up.

A short distance beyond the mine we sighted the first of the old Chinese rock ruins. Even at best they had been primitive abodes, and now they were quite tumbled down.

Cruising slowly down the canyon, we came to the remains of a larger and more imposing building. Here the walls still stood to a height of eight feet, and from Joe Thornton's description I decided this had been one of the stores. It was here I found my first relic of American Canyon's Chinese era—a pint-size copper pitcher! Crudely made and obviously very old, it was

DESERT CALENDAR

ARIZONA

- Oct. 31-Nov. 11—Arizona State Fair, Phoenix.
- Nov. 15—Arizona Boys Ranch 8th Anniversary Charity Ball, Hotel Westward Ho, Phoenix.
- Nov. 16—Catholic Fiesta, Yuma.
- Nov. 19-24 — International Auto Show, Phoenix.
- Nov. 22—Annual Northern Arizona Christmas Parade, Winslow.
- Nov. 29-30—Junior Parade, Florence.
- After first frost—Yeibichi and Fire Dances, Navajo Reservation.

CALIFORNIA

- Nov. 6-9—10th Annual Death Valley 49ers Encampment (see page 28).
- Nov. 8-9—16th Annual Desert Weed Show, Twentynine Palms.

NEVADA

- Oct. 31-Nov. 1—Nevada Admission Day Festivities, Carson City.
- Nov. 20-22—State Farm Bureau Convention, Winnemucca.

NEW MEXICO

- Nov. 1—'49ers Celebration, Socorro.
- Nov. 2—All Souls' Day, Memorial Services in all Spanish Villages.
- Nov. 11-13 — Goodwill Tour, Albuquerque.
- Nov. 12—St. James Day Fiesta and Harvest Corn Dance, Tesuque Pueblo.
- Nov. 12—Annual Fiesta and Harvest Corn Dance, Jemez Pueblo.
- Nov. 15 — Annual Treasure Hunt, Hobbs.
- Nov. 19-21—State Farm Bureau Convention, Roswell.
- Late Nov. or early Dec. — Shalako Ceremony, Zuni Pueblo.

UTAH

- Nov. 12—Annual Veterans' Day Parade, Milford.
- Nov. 14-18—Golden Spike National Livestock Show, Ogden.
- Nov. 16—Catholic Carnival, Helper.
- Nov. 28 — Children's Christmas Parade, Salt Lake City.



Joe Thornton, 79, remembers the Chinese colony in American Canyon.

almost completely hidden beneath wash sand and the fallen rubble of the walls.

The canyon trough widened and flattened as we traveled through a section overlaid with endless tailing piles. From these rounded mounds that looked like ant hills twice as high as houses, a golden harvest had been winnowed by means of crude gold rockers, water carried in buckets, and Oriental determination.

Continuing down the trail we passed another old cabin built mainly of adobe, and entered the canyon's main concentration of Chinese ruins.

Wandering afoot through the remnants of this strange ghost town, we found a building put together from packing case boards stenciled with Chinese characters, and further searching in the rubble revealed scraps of woven reed matting. Close by stood another structure fabricated of boards, earth, rock and scrap tin. Since it was only 30 inches square and that much in height, I suggested it was a dog kennel.

"That's no dog house," said Ed. "That's a Chinese chicken house! I'll bet you'll find roosts inside . . ."

Sure enough, there were three roosts! I suppose the tiny coop could have housed eight or ten hens—if they didn't mind a little crowding.

Strewn haphazardly around the tumbled-down rock dwellings and the tailing piles that rose on every side was a strange assortment of relics: tin coffeepots of the gallon size; teapots and tea cannisters; huge tin cups; great numbers of shovel blades, each worn to a nubbin; and many sheets of metal about two feet square perfor-

ated with holes slightly smaller than a dime. These, we surmised, had been fitted in the bottom of the rockers to catch and hold the gold. I was pleased to find an iron kettle, a couple of old bottles, and many fragments of black earthenware jugs. We also found many broken pieces of light-blue earthenware bowls, and many tins of peculiar shapes and sizes—quite unlike anything I had ever found in other ghost towns.

Many of the old relics were beyond our ability to identify. I could have remained there for days, searching over the tailing piles and the ruins; but early evening found us working our way down the wide fan that debouches into the valley from the canyon's mouth. We headed back toward Lovelock by way of Spring Valley and Limerick Canyon.

That evening we visited Clarence Young, whose father, Steve, ran a store and hotel at Lovelock in the early days, and had dealings with the American Canyon Chinese.

One old Chinaman, Ah Lem, Young recalled, drove stage between the canyon and Lovelock, and often brought to the Young store large quantities of gold-dust and nuggets which he exchanged for supplies ordered by the various miners, or left there for safe-keeping.

"What became of the Chinese in the canyon?" I asked.

"They straggled away," said Young. "As each miner worked out his lease he would take another—as long as ground was available. But when no more unworked ground remained, there was nothing to do but move out. The more successful ones took the gold they had mined and returned to China. Some saved enough money to



Chinese placer mining relics found in the canyon include old shovel blades, perforated metal bottoms of gold rockers, iron kettles and bottles.

enter business in this country. Toy Lee, I remember, opened a restaurant in the hotel owned by my father. Many others became ranch cooks and house servants. For years there were few ranches in Lovelock Valley without Chinese cooks. The lower class of workers—the coolie type—found employment as railroad section hands."

When I asked if there were any American Canyon Chinese living in Lovelock Valley today, Young shook his head.

"No," he said. "I'm sure there are none left. Not here; probably nowhere . . ."

Ed Green inspects a primitive Chinese chicken house in American Canyon.



Silence - -

. . . the Desert's Most Precious Gift

"And a great and strong wind rent the mountain and brake in pieces the rocks before the Lord, but the Lord was not in the wind; and after the wind, an earthquake, but the Lord was not in the earthquake; and after the earthquake, a fire, but the Lord was not in the fire; and after the fire, a still small voice. And it was so, when Elijah heard it, that he wrapped his face in his mantle, and went out, and stood in the entering in of the cave. And, behold, there came a voice unto him."—1 Kings 19, 11-12.

By ELEANOR N. FOWLER

SILENCE HAS BEEN a part of man's birthright since the dawn of creation. Everyone is seeking something—peace of mind, serenity of spirit, a solution to problems, accomplishment, friendship, self-understanding. As Elijah found the communion he sought not in the crescendo of the wind, the turmoil of the earthquake nor in the roaring of the flames; but in the stillness which followed them, so we, too, may find what we seek in a time apart.

Silence is a gift which the desert offers us. The sea is characterized by the pounding of the surf and the crying of gulls; the mountains are frequently lashed by storms, or the air is vibrant with bird song and the chattering of squirrels; but over the desert hangs a deep and brooding silence, a silence which is unbroken by the small animals which inhabit it, or by the hawks which glide above it.

Those of us who are but a step away from the desert too often regard it as an arid and desolate waste. We frequently are blind to its beauty. But when we take the time to walk or drive through it, there is much that we may expect to see and to feel.

There is nothing flamboyant about the beauty of the desert, but there is something very elemental about it. There is something valiant about the tiny flowers which struggle for existence. There is a lesson to be learned from the plants which take a precarious grasp on life in the crevices of rocks and send their roots down through the fissures in the rock to the water that lies below. Even the sagebrush which we so often disparage has a symmetry equal to that of the mighty trees of our forests, a symmetry which bespeaks an adaptation to adverse circumstances and a tenacity of life. There is even a subdued sort of beauty in the lichens which cover the rocks with a patchwork quilt of red and brown and yellow. And everywhere that it can maintain a foothold against the winds which sweep across the sand, clings the life-sustaining grass.

There is, above all, an awareness of the quiescent strength of the desert, a strength against which the pioneers pitted themselves and often lost, a strength with which the animals that make it their home must constantly cope or leave their bones to bleach in the sun. There is, too, an awareness of promise, of a slumbering fertility which needs only the kiss of water to awaken it to lush and verdant growth. And over it all hangs the splendor of the desert sky, the balm of the desert silence.

This silence is something which we may carry away with us. It is a gift which we owe ourselves, for true silence is the rest of the mind, and is to the spirit what sleep is to the body, nourishment and refreshment.

In this day when our mental institutions are overflow-

ing, when the percentage of those who will some time require psychiatric treatment mounts alarmingly, we need to rediscover this gift of silence. We live under a growing sense of tension and pressure, and often a feeling of futility. The sale of tranquilizers and barbiturates steadily increases, and we seem to have forgotten that in silence there is healing, in silence there is strength for our weakness, light for our darkness.

Silence is a gift which we can give our families. From the moment of birth, today's child is bombarded with sound. We can sometimes dispense with the radio, with television, with the record player, and create a time of stillness. By doing so, we can build a stronger bond of communication between ourselves and our families by offering this opportunity for the sharing of problems or aspirations. We can help them become articulate about life's deeper meanings if we make time to listen. We can give them room to grow mentally and spiritually, to learn to live creatively.

Silence is a gift we can sometimes take to our friends. There is a great human loneliness, a great yearning for understanding which we can, momentarily at least, assuage, if we will. One of the greatest needs of our time, or of any time, is for people who will listen, people who are willing to share another's burden. A hospital chaplain writes of what he terms "the healing sacrament of conversation" which he considers an integral part of the service which a hospital should offer its patients. "The healing sacrament of conversation"—this is something in which all of us may have a part in our day by day contacts with other people.

We are told that we use only a small percentage of our potential brain power, that we have within us an undiscovered wealth of creative ability, that our minds could assimilate many times the knowledge most of us acquire. Why is this true? The poet says it is because "the world is too much with us."

Today's newspaper is written and compiled in the midst of ringing telephones, clattering typewriters and pounding teletype machines; but the thinking and the writing which will endure beyond tomorrow are still done in a time of quietness. Only out of the depths of solitude could the Psalms of David have come, or the sonnets of Shakespeare, or Einstein's theory of relativity. Only out of a stillness of mind and soul have other writers been able to translate into words the impressions life makes upon them.

Silence is a gift which life offers us. It is a necessity which we sometimes deny ourselves. Would you forget the racing of the minutes and hear instead the slow beat of eternity? Go, then, to the desert. Of all its gifts, silence is the greatest.



Havasus Falls



Mooney Falls



Navajo Falls

Trail to the Canyon of Turquoise Water

In a remote high-walled canyon in northern Arizona lives a little tribe of Indians who have never seen an automobile on their streets. Access to their village is by foot-path, and visitors either hike or ride saddle horses down the rocky 8-mile trail from the plateau 3000 feet above. But tourists are welcome because they are bringing prosperity to these far-away tribesmen.

By RANDALL HENDERSON
Map by Norton Allen

IN MAY this year after an interval of 16 years, I returned to Cataract Canyon—the canyon of the blue-green waters—to renew my acquaintance with the Havasupai Indians who have dwelt in this idyllic gorge of red and cream-colored limestone for perhaps a thousand years. The Indians themselves do not know just when their ancestors migrated to this lovely retreat.

For the information of those not

well acquainted with the geography of northern Arizona, Cataract Creek, also known as Havasu Creek, is one of the tributaries which feed the Colorado in the Grand Canyon area. In this remote chasm a series of ever-flowing springs bubble to the surface and form a sizable stream of water highly impregnated with carbonates of lime. Within a span of three miles the stream tumbles over three great waterfalls, with many splashing cascades between. Normally the water is a clear blue-green, but when churned by the falls and cascades it acquires a milky turquoise hue and is one of the most colorful streams in America.

My return trip to Havasu this year was with Joe Wampler, archeologist, mountaineer and guide who conducts expeditions into Havasu Canyon each spring and fall.

Our rendezvous was El Trovatore Hotel in Kingman where our small party met for the start of the 6-day outing. Joe prefers small parties. This year he guided 11 trips into Havasu Canyon. Members of this excursion

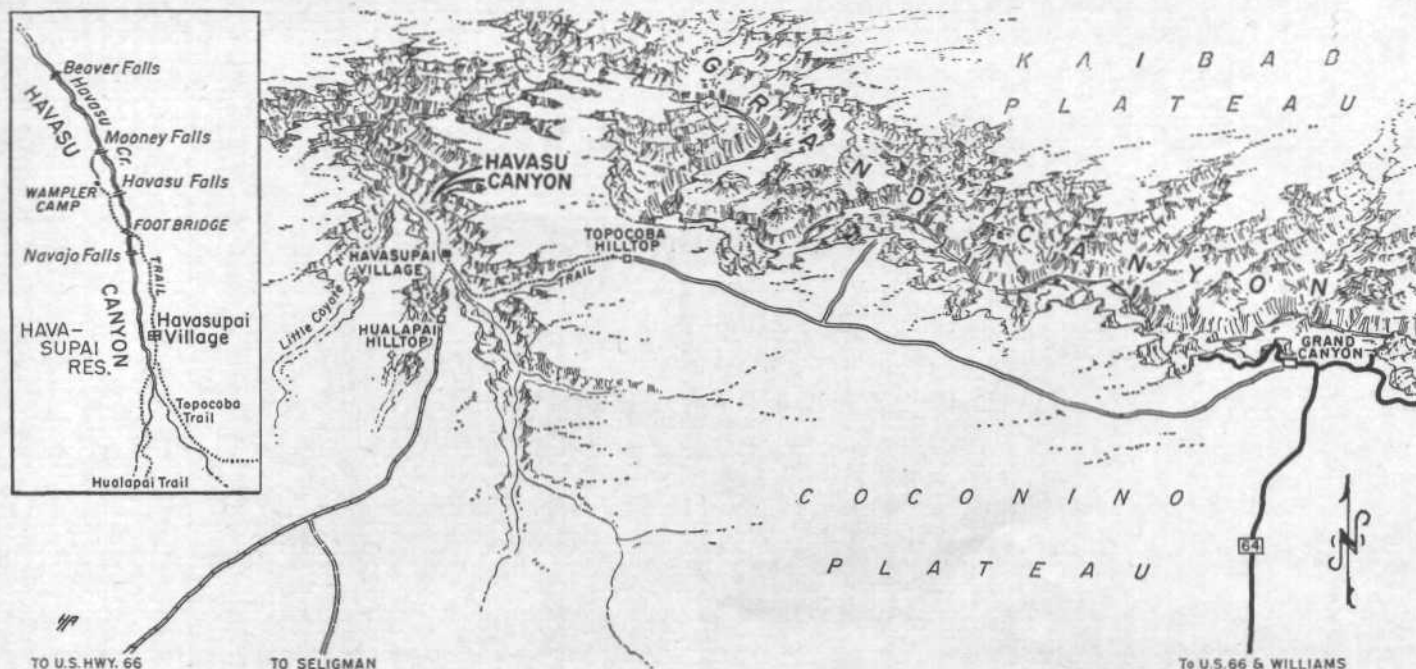
were Frances Field of Los Angeles, Mrs. Robert S. Worthington of El Segundo, California, and her mother, Mrs. Ralph D. Robertson of Los Gatos, California.

From Kingman the station wagon ride along Highway 66 to Peach Springs and thence 63 miles over a well-graded dirt road that winds across the high northern Arizona plateau took us to an elevation of 6497 feet where we passed through a forest of coniferous trees and over a sector of the Hualapai Indian reservation. Twice we saw antelope bounding over the grassland that bordered much of the road.

There is no road into Havasu Canyon—not even a jeep trail. Our motor trip ended at Hualapai Hilltop where Supai Indians were waiting with pack and riding animals to take us to their village, eight miles away and 3000 feet below.

A steep trail zig-zagged down to the floor of Hualapai Canyon and thence along an easy downgrade to its junction with Cataract Canyon.

The packers also were carrying food supplies for the little cooperative store which the Indians maintain in the village. I saw the panniers on one pack mule filled with fresh bakery bread, and another was carrying two bunches of bananas. Evidently these Indians are eating better than were their ancestors when Father Garces, the first white man to visit this tribe, made his way into the canyon on foot in June, 1776.



We stopped at the village store for cold drinks, and then continued along the trail which follows Cataract Creek downstream toward the Colorado River.

As we continued on a trail that contoured the hillside we were looking down on the tumbling stream much of the time—and the pictures we saw as we rounded each bend of the path would delight a color photographer. Where the current slows down, the lime particles in the solution, being heavier than the water, sink to the bottom and build little dikes which eventually rise above the surface of the stream at low water, forming a

series of little pools. Watercress soon takes root on these little rims of limestone—and the result is a series of turquoise pools rimmed with the deep green foliage of the plants.

Before long we could hear the roar of falling water, and as we rounded a sharp bend we saw the stream tumble 100 feet over the brink of Navajo Falls. In the formation of Navajo as well as the other falls in Cataract Canyon, Mother Nature was good to the photographers. With a minimum of effort, well-composed views of the stream as it tumbles over its travertine wall can be obtained from above or below or from a dozen oblique

stances. Truly this is a paradise for the camera hounds.

In another half mile we came to Havasu Falls, formerly known as Bridal Veil Falls. Higher than Navajo, the stream here breaks up into several rivulets which spray down over the travertine face in an ever changing pattern.

The lime in the water is constantly being deposited to form fantastic aprons of rock. Actually the process here is much the same as in the formation of stalactites in limestone caverns. Each drop of water as it falls or drips down the face of the falls leaves behind a tiny residue of limestone—and as this goes on year after year a great vertical tapestry of stone is being formed—and is ever changing. Havasu Canyon is one of the few places where the great stone crust of the earth is still in the making.

A half mile below Havasu Falls is a little natural park shaded by cottonwood and ash trees, and it is here that Joe Wampler maintains a permanent camp. There is a little cook shack with an outdoor fireplace, tables and benches—and a gong to summon the guests to chow.

I am sure that no campers ever enjoyed better meals than were served to us in Havasu Canyon. Maurine Peterson, who presides in the camp kitchen, holds a master's degree in zoology at the University of Idaho and a master's degree in public health at Michigan—and I would be in favor of granting her a master's degree also in camp cooking. She prefers the outdoors to the classroom—hence her service with the Wampler organization. Her assistant was Martha (Mar-

Hualapai Hilltop, where the road ends. Here Indian packers meet incoming visitors with pack and saddle animals. The trail is down Hualapai Canyon in the background. Distance to Supai Village eight miles.





Joe Wampler, archeologist, mountaineer and guide, who prefers the outdoors to the classroom.

ty) Ellis, a college girl earning vacation money. Marty was doing the job once classified as camp flunky—but in the teenage vernacular of today she was serving as pot-walloper. Anyway, she did the job well, and entertained us in the evenings with her guitar.

The water in Cataract Creek is drinkable despite its heavy lime content, but a little spring near the camp provided clear water which we preferred.

Our five days in the bottom of the canyon were taken up with hiking and exploration. There are numberless points of interest both in the canyon and on the high rims above. With Joe as guide we climbed some of the foot trails—some of them too steep for riding animals, but not too difficult for hikers. Many of the wildflowers were in blossom in May, salmon mallow predominating, but we also saw Indian paintbrush, Prince's plume, monkey flowers and fleabane.

The photographer gave these Supai children a package of dates.

One day we hiked to Mooney Falls, three-quarters of a mile below camp. Here a stairway trail, partly through a tunnel, descends through the travertine face of the waterfall. These falls are said to have been named for a prospector who many years before the trail was carved out of the rock, tried to descend with a rope, and was killed.

Three miles below Mooney is Beaver Falls, which really is a glorified cascade. Uranium prospectors, with the consent of the Indians, had been in this canyon, and at one place a steel ladder extended 200 feet up the face of the cliff to a little tunnel that had been abandoned because it did not yield sufficient pay ore.

We were in and through the Indian village many times on our hiking trips, and I enjoyed a visit with Victor Collins, who has been stationed in Supai village seven years as agent for the Bureau of Indian Affairs. Collins is hoping that the Bureau will come in and install a water-wheel for power, and other facilities to replace the crude irrigation system which serves about 300 acres of fertile soil in the bottom of the canyon.

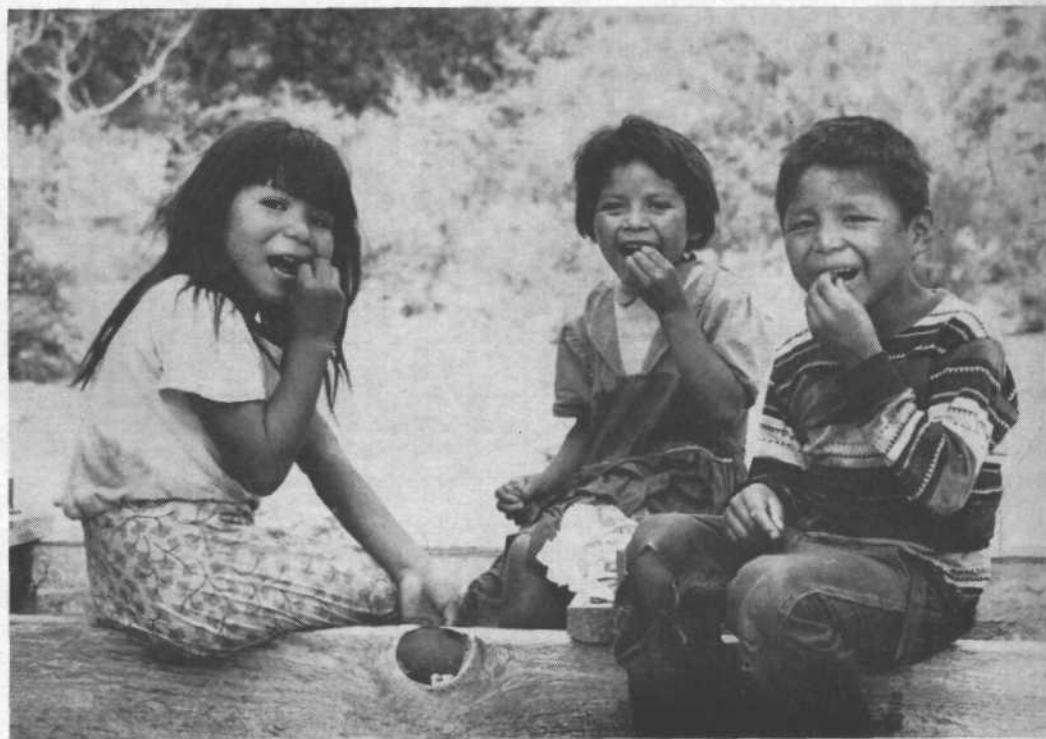
Collins told me that several of the Indians left the canyon to take jobs in distant white communities under the direction of the Indian Placement office. But among all those who left, only two stayed with their jobs. The others have all returned to their homes in Supai village.

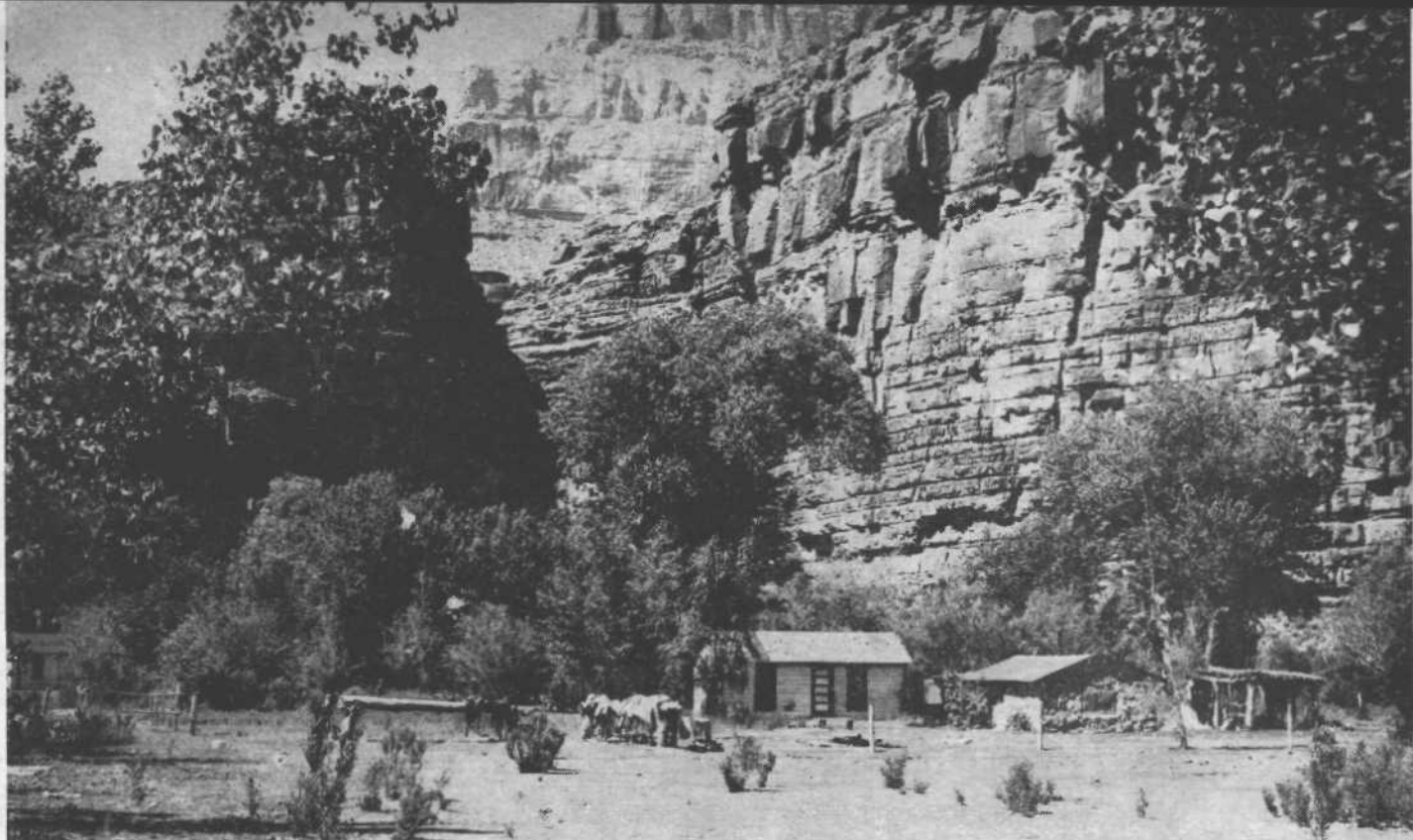
Indian farming is rather haphazard. The soil is fertile on the floor of the canyon, and the water supply ample. Also, the Indians, through their coop-



Reed Watahomagie, grandson of a former Havasupai chieftain, who manages the Indian cooperative enterprises.

erative organization, and with some help from Uncle Sam, have acquired modern farming tools to take the place of the primitive utensils formerly used.





But the Supai are better horsemen than farmers — at least they prefer livestock to the toil of plowing, cultivating and irrigating. The increasing tourist travel into the canyon now brings them a substantial income as

packers and wranglers — and as the barometer of tourist prosperity rises, the barometer of farm activity has fallen. The two panniers filled with fresh store bread are symbolic of the changing way of life in Havasu Can-

Frame houses have replaced the brush shacks which the Supai occupied before Uncle Sam became interested in their welfare.

Hard Rock Shorty of Death Valley



From the porch of the Inferno store a cloud of dust could be seen moving rapidly down the valley.

"Visitor comin'," remarked Hard Rock Shorty.

A few minutes later a big dust-covered automobile stopped in front of the gas pump and the driver sauntered toward the porch steps.

"Think it'll rain?" he asked as he glanced along the row of old-timers seated on the wooden bench.

Shorty squinted up at the dark patch of clouds overhead. "Probably will," he conceded, "but I cain't tell yu where. These desert storms comes in spots an' has clean edges. They does funny things sometimes.

"I'll tell yu what I mean, stranger. One summer Pisgah Bill decided to raise a flock o'

chickens. 'Ain't no sense goin' without fresh meat,' he explained, 'when chickens is so easy to raise.'

"So he had a cage o' Plymouth Rocks shipped out to Barstow, an' the day they wuz to arrive he drove his ol' jalopy down to the railroad to pick 'em up. He put the crate with the chickens on the back end o' the car.

"Looked purty dark down south, an' Bill figgered the rain'd catch up with him if he didn't hurry. His ol' lizzy'd only go 27 miles an hour, but he stepped on the throttle, and kept jest ahead of the storm all the way in.

"When he got to Inferno he rolled under the shed over there with the cloudburst peltin' the road jest behind him. Didn't get a drop o' water on hisself—but when he went around to unload the chickens they wuz all drowned."

yon. Unfortunately, the tourist industry is not a year-around source of income, and when the pack animals are idle in winter, many of the Indian families go on relief rolls.

Evidently some of the clothing gathered by charity organizations for distribution to needy Indians reaches Supai village. I saw some of it—on scarecrows placed in the fields to keep the birds away from the grain crops. I am sure it was gift clothing, for Havasupai women are rather plump—and none of them could have worn some of those sleek, willowy dresses which adorned the scarecrows.

Under the guidance of the Indian Bureau officials, the Indians in Havasu operate a very effective cooperative — Havasupai Indian Enterprises. The Indians, by democratic procedure, select one of their members as manager, and operate the store, and provide pack and riding stock, and limited hotel accommodations, for tourists.

Supai Tourist Information

For those who may sooner or later wish to visit the canyon of the Supai Indians, complete information as to saddle and pack animals, and accommodations in Supai village may be obtained by writing to Havasupai Tourist Information, Supai, Arizona. Mail goes into the canyon by pack animal twice a week. There is also telephone service to the village.

Manager of the Enterprises is Reed Watahomagie, a bright well-educated young man whose grandfather, before his death, was chief of the 240 tribal members. When a request comes in by mail or telephone for riding ponies and pack animals for a visiting tourist group, Reed's job is to make sure the required number of animals with wranglers are at Hilltop when the motorists arrive there for their trail trip down to the village.

The little school house built by the Indian Bureau in Supai is no longer being used. It cost the Bureau \$35,000 a year to operate the school, and it was found more economical to keep the Indian children in boarding school at Phoenix and elsewhere. Opinion among the tribesmen is divided as to whether they would prefer to have their children in a local school, or lodged at the boarding schools outside.

We found Joe Wampler a very cooperative guide and camp manager, and I was interested in learning why a man well qualified for a college professorship should choose to follow the hectic career of wrangling dudes in the High Sierras and other out-of-the-way places. In addition to his Havasu Canyon schedule, he conducts trips on the Muir Trail each summer, also a "leisure camp" in the Sierras, a "fisherman's special" in the Santa Lucia Mountains out of Carmel, California, and two annual trips to Barranca del Cobre in Mexico.

Joe is a native of the Shenandoah Valley in Virginia. He was forced to leave college in his home state because of an eye ailment. He came to California, and when medical treatment had cleared up his problem of vision, he entered the University at Berkeley. As an interlude in his college training he had an opportunity to go to Palestine on an archeological expedition arranged by the Pacific School of Religion. After three of these Holy Land expeditions he returned to the Pacific School of Religion to complete his college work and get his master's degree.

He was well prepared for a scholastic career, but the call of the outdoors was more insistent than that of the classroom and in 1950 he organized his first trail trip—over the 189-mile Muir Trail in the California Sierras. Year by year the popularity of his Trail Trips has increased and he keeps adding more outings to his schedule.

There isn't time in a week to cover all the trails in and bordering Havasu Canyon, nor to become well acquainted with the tribesmen there, but it was a satisfying outing in every way. One day we went to the village to obtain some of the hand-woven baskets made



Sweathouse in Havasupai Canyon. The stones in the foreground are heated and carried into the dugout and dashed with water—a crude form of steam bath. The sweathouse also serves as club rendezvous for the Indian men.

by the Indian women. Havasu women are experts at basketry, but only a few of them are working at it, and because the supply is limited, the prices are rather high. I can say in behalf of the Indians, however, that they are not devoting as much time to gambling as they were 16 years ago.

According to the anthropologists, the Supai are of Yuman stock, having left the Colorado River valleys and migrated to the northern Arizona plateau perhaps as long ago as 800 A.D. Like the Indians along the Colorado, the Supai do not have the elaborate ceremonials of the pueblo Indians further east. Since there are no kivas in the Supai settlement, the men use the sweathouse, a mud-covered dugout, as a sort of club house. There they

gather in the afternoons to lounge and gossip—and I have no doubt some of the laughter is related to the business of wrangling eccentric dudes down the trail which leads into this canyon shangri-la.

Not all the visitors come to Supai by the Peach Springs route. Another road leads from Grand Canyon to another hilltop terminal at Topocoba, and from there it is 14 miles by trail to Supai village. The Indian packers will meet visitors at either hilltop, if arrangements have been made ahead of time.

But whether from Hualapai or Topocoba Hilltop, the trip to the Supai village and the magnificent waterfalls of Cataract Canyon is a never-to-be-forgotten experience.

Much of the material for this mission building in Havasupai Canyon was brought in by helicopter.

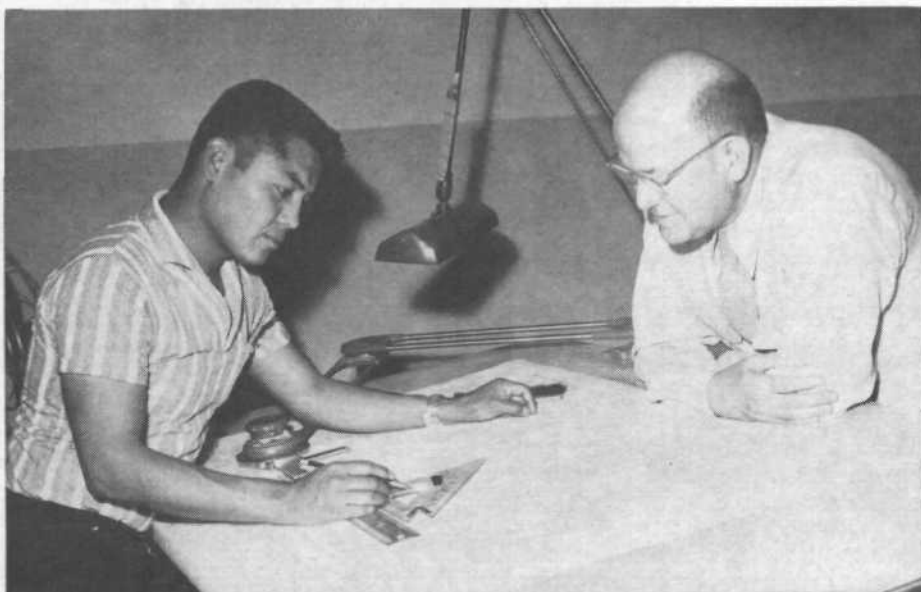




The University of New Mexico's Kiva Club — students who help fellow Indians bridge the gap—

From Pueblo to Classroom

By LaVON TEETER



Part-time job with Bureau of Indian Affairs resulted from skills Bill Garcia learned in college. Looking over his work is Engineer John T. Finley. At left Bill and Mae Paul Scott, a Navajo, in their Nizhoni Dance costumes.

THE YOUNG Navajo's brown fists were clenched at his side as he looked around the strange college dormitory. Many times before he had left his reservation and family to attend Indian schools, but this university—this place where he was to get a higher education—was entirely a white man's world!

Was it for this aching loneliness in the heart of an Indian youth surrounded by hundreds of white teachers and pupils that he had dreamed and prayed and worked and sacrificed? Was it for this his tribe had so proudly sent him to the University of New Mexico?

Then, from the open doorway came magic words: "Yaheh-teh! Yaheh-teh!"

Hello! Hello! Words hard and guttural to others, but to him warm and friendly! Sweet as the Night Way Ceremony! Sweet and familiar and kind, melting the frightening aloneness. Another Navajo! A fellow student here to welcome him, to make him feel at home, to explain, advise, encourage and understand. Suddenly, the sun, stars and moon were right again—thanks to the Kiva Club.

The Kiva Club at the University of New Mexico in Albuquerque takes its

name from the ceremonial chambers of Southwest tribesmen, but it differs in that it welcomes palefaces and females, has no secrets, and is dedicated to the advanced education of the Indian. Organized five years ago, today its membership numbers 60. Although any interested person may join, the majority of its members are Indian students who represent almost every tribe in the state as well as the Sioux, Hopi and others from outside New Mexico.

On campus the club functions as a welcoming agent, an economic and social helper, and an inspirational contact for a minority group which must make a difficult adjustment to the non-Indian world. Off campus Kiva devotes its time and talents to encouraging younger Indian boys and girls to seek a college education, and to making one possible.

Whether members are electing their representative to the Student Senate, decorating a prize-winning Homecoming float depicting an exciting phase of Indian life, handing out scholarships, hosting visiting pueblo groups, or talking with quiet earnestness to Indian School graduates, pride of race and the desire to preserve time-hon-

ored cultures glow with the brightness of a ceremonial fire. This spirit reaches out to all visiting Indian celebrities. When Pop-Chalee, noted Indian artist, came to Albuquerque last spring to lecture for the Y.W.C.A., members of the Kiva Club were on hand to welcome her, and serve as ushers at her performance.

Indian students tell me that they will always remember their first days at the University, and the warm spot they have in their hearts for the Kiva Club. It gives them their own people to aid in an adjustment which, at best, is naturally slow, and, at worst, causes newcomers to quit and drop out of school. It provides elder brothers to encourage them to stay at a dormitory, mingle with others, and to study; to extend financial help in the form of scholarships, loans and part-time jobs; and to offer needed recreational activities.

I found it interesting and worthwhile to attend some of the Kiva meetings, and hear speakers familiar with the Indian's problems of adjustment and adaptation. We heard from Indian Bureau and United Pueblo Council spokesmen, faculty members, and older students like Edmund Ladd, a



San Ildefonso Pueblo tribesmen perform the Comanche Dance, a ceremony borrowed from the fierce nomadic Comanches.

Zuni graduate in anthropology who believes "No race has ever risen above the height and breadth of its leadership."

While chili, tamales and Indian corn are being enjoyed at party get-togethers, students discuss the need for better educational opportunities and more scholarships for their people. Information concerning the availability of such aid is passed on to others to help increase the number of Indians attending colleges and universities.

Dr. W. W. Hill, chairman of anthropology at UNM, serves as advisor to the club. A better man for the job could not be found. During a discussion concerning a lagging fund raising project, Dr. Hill quietly and effectively settled the matter by saying, "Of course you will finish the drive on time—if I have to sell the whole anthropology department down the river to get needed help!" That's the kind of talk the students understand and like.

Of the 18 pueblos in New Mexico, few are in a financial position to offer adequate assistance to their young people seeking higher educations. Laguna, with money accumulated from leased mining rights on its land grant, is in the process of working out such an aid program. The Tribal Council for the nation's largest tribe, the Navajo, wealthy from uranium and oil leases, has set aside \$100,000 in scholarships. These are exceptions,

however. Most of the pueblos need the help of the Kiva Club.

First Kiva president was Hampton Haozous, a Chiricahua Apache whose grandfather fought with Geronimo. Hampton joined the Marines at 16. In 1951 he was discharged, and enrolled in the University. "I see educa-

tion as a solution to the problems of my people," he said. "I hope someday to sit in the tribal council myself."

Charlie DeJoie, a Navajo, is another Indian boy who came to the University and became active in the Kiva Club. In 1949 he was given an all-expense scholarship to Exeter Acad-



Spirited Apache Devil Dancers perform at the Kiva Club's Nizhoni Indian Dances.

emy in New Hampshire, and was graduated with such high honors the Tribal Council gave him a \$1300 annual scholarship to attend the University. The Navajos chose wisely in bringing this boy from hogan to classroom. "My only purpose in getting an education is to help my people," he said.

Last year Kenneth Hailstorm, former UNM student from the Acoma Pueblo, was one of 200 Navy volunteers to spend 14 months in Antarctica, where living was "like being in a bottle of milk." Kenneth is now an instructor in a San Diego sonar school.

An increasing number of young Indian women appear on the roster. Two Zuni girls, from a tribe where this is against all tradition, are university coeds. A Navajo girl, Shirley Arviso, is in the graduating class. She majored in bacteriology. Sunset Martinez, granddaughter of Maria the Potter, was a student. Dorothy Aquilar, a Tewa from the San Ildefonso Pueblo, took work at the University under a \$500 scholarship awarded by Gaylord Philanthropies, Inc. These scholarships are maintained to train leaders needed by Indian groups. Ford Foundation scholarships also have been given to some Indian students.

Although all tribes encourage students who secure a higher education to return to their people, the Navajos are the only ones who make this a stipulation. I had only to hear many young Indian students speak of what interests them most, however, to learn that most are returning voluntarily to their pueblos and reservations. They are interested in sanitation, welfare services, Indian attitudes toward rising problems, local government, the tribesmen's bewilderment over non-Indian rules and regulations, and the indifference among their own people which they must fight.

In the last five years the Kiva Club has given over 20 scholarships. A committee evaluates the applications, working with University officials. "At the present time," explained a Kiva spokesman, "practically every qualified applicant can get a scholarship, but we foresee difficulties as the number increases."

The club's earnest desire to help every worthy Indian who wishes to attend UNM has led to a fund raising feature unique enough to attract an audience not only from the school and its environs, but from the whole Southwest as well. This is the Nizhoni Indian Dances held on campus every spring.

"Nizhoni means beautiful," the Navajo students told me, and no word can better describe these cooperative dances put on in all their lovely color

and authenticity. Over 200 dancers from the reservations and pueblos gather at the university as guests of the Kiva Club. They set up an Indian village, tour the campus, and, when night comes, perform in the dances.

It is a night of thrills! Religious, social and ceremonial dances that are centuries old. Flying feathers over buckskins and buffalo hides. Beating drums! Ceremonial chants! Dance after dance offers two hours of enchantment and a marvelous opportunity to understand and appreciate ancient cultures.

The Nizhoni Dances not only use skilled performers from the pueblos, but also pupils from the state's two Indian schools at Albuquerque and Santa Fe. Sometimes small children from the Jemez and San Juan pueblos' day schools display the steps of the Deer Dance. Professional Indian dancers often donate their services. Tony White Cloud, who has performed in Madison Square Garden and Europe, is a featured attraction.

The beautiful Navajo Sunrise Song, which opens the Nizhoni Indian Dances, usually is sung by Ed Lee Natay from Canyon de Chelly. Tribesmen employed by the Bureau of Indian Affairs have performed the Peace Pipe Dance of the Plains Indians. Laughing Eyes, a Zuni, and Clarence Taptuka, Hopi, nationally known Indian singers, have been soloists.

The Nizhoni Dances convinced me that the Kiva Club has found a most appropriate and charming way to help the cause of Indian education. No wonder every member is proud and joyful as the dollars, sometimes several thousand, are received. As for the participants, one of them expressed the common feeling when he said, "We feel well paid for our efforts when we know it means another son or daughter from our pueblo will go to college."

Yes, Kiva Club is proud—but not satisfied! It goes on planning bigger and better events. If a beautiful dance festival is a wonderful method of raising money for scholarships, why wouldn't a beautiful song festival be equally wonderful? The current Kiva aspiration is to put on a music festival—Indian folk songs and music, with a narrator to explain their meanings.

Kiva, in spite of commercial temptations, keeps its spirit as true as the pueblos maintain their ancient dances. It consistently refuses to add anything to its repertoire that is not in absolutely authentic Indian tradition. No crowning of queens! No ads! No borrowing of the white man's glamour tricks!

Kiva Club is the only one of its kind in New Mexico, but similar organizations are springing up and growing

throughout the Southwest. Kiva Club hopes to promote a joint meeting with Indian clubs at the University of Arizona, Brigham Young in Utah, and Arizona State. When such a meeting is held it will be a gathering of young people not only proud of their heritage and determined to preserve their ancient cultures, but also bravely and realistically accepting the challenge of securing higher education for the Indian youth of today.

"We are happy to dance, or sing, or work, or do anything else that will help bring degrees to our people," these students tell me.

And they do not forget that *Yaheh-teh! Yaheh-teh!* to the strangers among them is often the timely greeting that bridges the gap between pueblo and campus—that makes brown fists unclench and Indian minds and hearts open to receive this precious gift of higher education.

DESERT SURVIVAL RULES LISTED BY YUMA SHERIFF

Yuma County Sheriff's Office has drawn up a list of 9 "desert travel don'ts" which it hopes will prevent further loss of life among persons making desert outings in that area:

- (1) Don't forget to tell someone what area you are going to and when you expect to return.
- (2) Don't start out unless your car is dependable.
- (3) Don't leave your car if you break down. Stay with it.
- (4) Don't forget to take an extra supply of water, gasoline, food, matches, etc.
 - (a) Don't waste your water.
 - (b) Don't forget to build a smoke fire, preferably of greasewood.
- (5) Don't forget to take a white sheet or canvas to spread on the ground. It can be spotted easily from the air.
- (6) Don't forget to leave some visible sign of direction if you are forced to leave your car.
 - (a) Don't forget to make markings with rock pointing in direction taken.
 - (b) Don't forget to take pencil and paper (or even rags) to write valuable information on.
- (7) Don't send your partner in for help. We want him to live too.
- (8) Don't start walking under any conditions unless you are positive you can make it back to civilization. We know from past experience that even a man that is sure of his surroundings seldom gets back alive.
- (9) Don't get excited or panicky in your desolation. It makes the heat less bearable and the chances are good that we will find you.

Pueblo Portraits

By JOHN L. BLACKFORD



Pueblo belle of San Ildefonso. Her village is on the east bank of the Rio Grande a few miles north of Santa Fe. San Ildefonso is noted for the skill of its artists and pottery craftsmen.

Mojave Desert Opal Diggings



Here's a desert outing for folks whose outdoor interests are varied—a weekend field trip on which collecting gem stones, studying ancient Indian petroglyphics, examining old mining relics, and other activities all can be enjoyed.

By HAROLD O. WEIGHT
Map by Norton Allen

IN 1940 AND 1941 I spent my every free day following trails and byways of the Opal Mountain-Black Canyon country northwest of Barstow, California, and collecting nodules, jasper and opal there. For in addition to rockhunting, there is endless fascination in this Mojave Desert wonderland for anyone with a trace of interest in archeology, geology, botany, photography, hiking and mining history.

Since World War II, every time we sighted Opal Mountain—and it is an ancient landmark visible great distances and from many places—I remembered the gemstones I had found. Then I would tell Lucile about the natural wonders and man-made curiosities there.

"But," I invariably concluded, "the geodes and jasper probably are all gone now."

And — invariably — Lucile would protest: "But, undoubtedly the Indian petroglyphs are still there! And the opal mines, the tufa cliffs and the lava flows! Let's go and see!"

So in April of this year, with Laura and Buren Briggs, publishers of Twentynine Palms' newspaper, *The Desert Trail*, we went—partly to satisfy Lucile's curiosity, partly because this spring was a spectacular desert flowering season and we wanted to see the upper Mojave in bloom.

But, most of all, we were afraid

that if we delayed too long, we might never go. The Armed Services are attempting to absorb this wonderful land into their already grossly-overstuffed multi-million acre super-empire which has sealed off most of this part of the Mojave—including the Naval Ordnance Test Station, Edwards Air Force Base, Camp Irwin and the Cuddeback Range. And we knew that if they succeeded, it probably would be closed to the ordinary American citizen for the rest of our lives.

Their failure so far has been due to the law sponsored by Congressman Engle which forces the military to obtain Congressional approval for any big grab. Currently the Navy is seeking 250 square miles in the Opal Mountain, Black Canyon and Mountain, Inscription Canyon and Superior Valley area. Conservation societies, the Western Mining Council and San Bernardino County Supervisors are standing firm against the request.

The route we followed from Barstow last spring — along old Cave Springs (now Camp Irwin) Road to the Superior Valley Road, then on the Coolgardie Trail—is not the best or the shortest, but it has always been my favorite. About a dozen miles from Barstow it enters one of the finest Joshua forests on the Mojave—towering giants truly arboreal in appearance, with massive straight trunks, stout branches and thick crowns. They are

Trail in the pass between Opal and Black mountains plunges sharply down to Black Canyon.

best viewed along the wandering twin-ruts of the Coolgardie Road.

Coolgardie's most enduring monuments are the great mounds of rock and gravel on the brushy slopes — mute reminders of the massive back-breaking labor that is the basis of all mining. The dry-placer camp was named for the famous diggings in Australia. Its gold, according to California state geologists, came from the same ancient river bed that left rich deposits at Summit Diggings, Goler Wash and Red Rock Canyon. Mining began in 1900, and a number of men were still working before World War II.

At that time it seemed every foot of ground was owned, and the miners were extremely touchy about trespass abuses. On our recent trip we stopped to photograph the tin roof of a collapsed cabin bearing the words "Old Coolgardie Camp." This cabin was standing, though dilapidated, on my last previous visit, with a sign on it I've always remembered:

"NOTICE—Since '25 this cabin is claimed by me to be within the S.E. one-quarter of the S.E. one-quarter of S. 32.—Nothing but a legal survey disproving it will be accepted. All line-stepping, marker-changing non-working sneaking rats KEEP AWAY."

We saw no evidence of recent operations there this spring, but since the owner's name was freshly painted on the collapsed cabin, the same conditions—and feelings—may still exist.

Six miles southwest of Coolgardie we joined the main road from Hinkley, improved about 1947 to a pumice quarry. But we left it almost immediately, since the road we sought—up to the pass between Opal and Black mountains—branches west from it just north of where we came in. This quarry road from Hinkley is the best and most direct route to Opal Mountain — especially recommended for low-clearance cars.

The Mojave around Barstow was indeed sharing in the spring's great flowering. The displays multiplied as we drove on. The air became scented with perfume, and we passed through great gardens of many-colored blooms.

We negotiated the last four-tenths mile up and down a steep ridge and past an old loading frame into the little valley between Opal Mountain Peak and the flow-cliffs of Black Mountain. When I first came here, in the spring of 1940, I was guided by Marion A. Speer—the man who opened this area for the rockhounds and led hundreds of them into it. Most collectors know him, or know of him, since he is a real pioneer in our hobby.

"After I was transferred to California by the Texas Company in 1925," Speer told me recently, "I met a man in the Cadys who recalled seeing some peculiar rocks in the Opal Mountain country. I went to find them.

"The bald face of Opal Mountain was my guide. I started north from Hinkley in an old Dodge and finally reached Opal Mountain and prospected out the geodes.

"My second trip was in 1927. We camped two nights, digging geodes from the wall to the north. Since then right to the present, I have been taking people out there."

Speer first displayed some of his rocks and the historical relics of boom camps, freight lines, mining enterprises, frontier trails and railroads at a little museum building in Huntington Beach. Today the Western Trails Museum—the result of 300,000 miles of wandering and collecting—is a prime attraction at Ghost Town, Knott's Berry Farm, Buena Park.

Except for a few on exhibit, Speer has given away all the nodules and geodes collected in Opal Mountain.

On our trip to Opal Mountain this spring we found no complete nodules on the tertiary side, though pieces of chalcedony, opal and matrix could be picked up almost everywhere. But, a few minutes shovel work produced two fair sized whole nodules, which seemed to bear out Marion Speer's insistence: "There are plenty of good ones left—you just have to dig!"



Still the prize in the author's Opal Mountain collection is this four and a half by five and a half by eight-inch nodule-log, collected 18 years ago.

As for the jasper on the Black Mountain side—only the surface has been scratched. It is possible to find good pieces even in areas actively worked. And on that trip and two we have made since, I dug out gem jasper — banded, moss and some plume, in reds, yellows, lavenders, greens and browns—better than any I found 18 years before.

With the day passing rapidly, we loaded our rocks, returned to the main road, and followed it over the divide. Here it plunges down a ridge to the floor of a Black Canyon tributary. Jeeps and high pickups will have no trouble with this ridge route. Otherwise it is for experienced rough-road drivers, and down-hill is advised.

Entering Black Canyon, the road branches. The left fork goes directly down to Harper Lake and Hinkley. Once this was a bad sandy road upgrade. Now, apparently, most of the year it is a good often-used route for entering the canyon.

We turned right, up Black Canyon, to examine some of the old opal mines. Common opal is found many places on both sides of Opal Mountain. Some is pretty and will cut small stones, but the mining rush here early in the century was for precious opal. Charles Orcutt, pioneer California mineralogist, described its occurrence here. But, if it does exist there is no recorded production, and the miners who trenched and dug failed to find it in paying quantities.

It is legendary that Tiffany & Co., New York, mined gem opal in Black Canyon. A 1954 newspaper story said Tiffany had found a \$2000 stone there "recently." I could never find confirmation of these yarns, and Marion Speer, who contacted the Tiffany people, declares: "They told me they thought the geology was right for precious opal—as I do—and that they had spent \$90,000 there, but had never found fire opal."

I have never seen evidence of a \$90-

Buren Briggs and Lucile Weight examine the collapsed ghost of old Coolgardie, early Mojave dry-placer camp. Opal Mountain is at upper left.



000 mining expenditure in Black Canyon. The most enduring ghost of that era of lost dreams is the sturdily constructed semidugout of the American Opal Company, cut in the tufa about one mile up from the Opal Mountain road junction. In the '40s it sometimes was referred to as the mystery hut, and this spring I was surprised to find "Scout Cove" painted on the stone door arch. There is no mystery about the dugout, and the Scouts didn't build it. Once on that same door was printed: "American Opal Company, 1910."

Personally, I am very fond of that dugout. One day in 1941 I arrived here before daylight, and began digging in the opal veins to the west. I paid no attention to the intensifying heat, and at noon was struck with all the symptoms of heat exhaustion. I crawled into the dugout, soaked my head, and then relaxed in its relative coolness until the sun was gone. When I felt able to move, I drove back to Barstow.

From the dugout we turned back down the canyon. Black Canyon, with lava cliffs and flows overlying sheer tufas and contorted sedimentaries, is spectacular enough to reward any visitor. And besides, it has been a trailway since the first dusky desert travelers passed this way. In several places they left petroglyph memorials. About six and four-tenths miles down from the Opal Mountain branch, we stopped in the narrows to photograph a particularly fine group to which Marion Speer had introduced me in 1940.

It was dusk when we reached the canyon mouth. There the greatest thrill of the trip was waiting. We thought we had seen mass blooming on the other side of Black Mountain, but here, between its southern base and Harper Lake, and stretching east and west as far as we could see, was a sheet of pale blue-lavender like some other-world ocean. Hardly believing all these square miles could be flowers, we drove among them and stopped. The perfume was heady, and as a

breeze swayed the tall stems, we had the feeling we were suspended on this flowery sea.

Gilias were the blossoms creating the mass color—some with stems over three feet tall—growing like planted grain. And carpeting the ground beneath them we found verbena, white evening primrose, small golden primrose, Bailey, owl clover and larkspur.

As we drove on, the car lights played on masses of gently swaying blossoms, adding to the unreal atmosphere. But the dream became a nightmare when I tried to follow the old road across Harper Dry Lake to Black's Ranch ruins. There had been heavy rain and runoffs on the lake, and we detoured along streams looking for crossings, splashed along muddy ruts, and sometimes searched with flashlight to determine where the road ran. Finally we cut a new road and reached Hinkley. Next trip, to photograph the flower-sea, we found quite a good road around the lake to the canyon mouth.

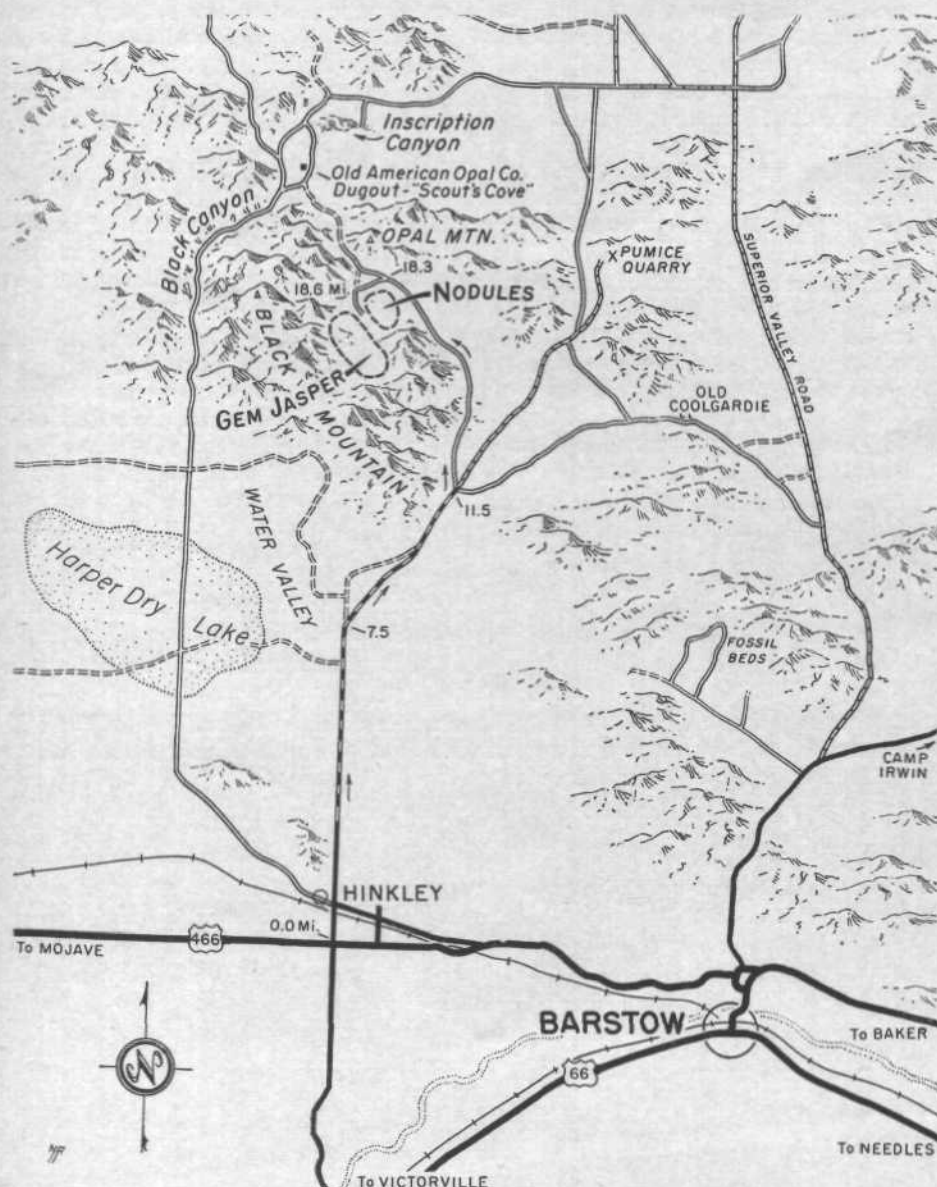
Principally because of its remarkable petroglyphs, an effort is underway to make this region a state park. Certainly these historical treasures should be preserved. United support of the great mass of rock collectors would be helpful here. However—we are only too well aware that often the first move after establishing such a park, for whatever purpose, is to forbid rock collecting; and that some conservation leaders have been particularly outspoken against rock collectors.

Perhaps in the future these groups will reach an understanding, and unite in true and effective conservation of the many features of our desert wilderness which desperately need defense. In the meantime, certainly we can agree with the spirit of the sign posted in Black Canyon by the Archeological Survey Association of Southern California:

"This is Black Canyon, a very special and beautiful part of Southern California. Three cultures of Indians have lived here: One very old with primitive tools; another not as old; the last may have known the first Spaniards. They all have left their drawings on these walls . . .

"They are fascinating to study. Do not chalk them. Color or ordinary film will show more than your eye can see, especially in the morning or afternoon.

"Do not shoot the wild burros or take home turtles — live in peace with this extraordinary place. It is filled with charming ghosts and has brighter stars than other canyons. Ask the old homesteaders who lived here.



"And please do not injure or attempt to break out these rock drawings. The Antiquities act says NO. It also says \$500 and-or ninety days.

"The undersigned will go all out to bring to trial anybody thoughtless enough to injure or steal these and other antiquities. We hope you will help us too."

And to that every desert lover — rockhound and conservationist—must say: "Amen!"

American Opal Company's dugout still stands. This photo was taken by Lou Wescott Beck early in the century when the company was operating. Dog is the famous Rufus of Death Valley, said to have saved many men from desert heat.

Inscription Canyon contains spectacular collection of ancient petroglyphs.



LETTERS

Old Fort Davis—In 1928 . . .

Arnolds Park, Iowa

Desert:

I recognized the photograph of Fort Davis in my July *Desert Magazine* the moment I saw it.

Thirty years ago—in 1928—another locksmith and I drove up to the old fort, and I took a picture of much the same scene that appeared in the magazine. Comparing the two, I can see there has not been much restoration work done on the buildings.

I still travel with my work, and have chances to see many interesting things.

WAYNE VADER

Vandals Wreck Corn Springs . . .

Aztec Well near
Desert Center, California

Desert:

Those who love beauty would hang their heads in shame if they could see Corn Springs today. Vandals have disgraced the earth. They have used the well for an outhouse; carved and cut the nearby trees; strewn tin cans; shot the wildlife watering trough full of holes (we at Aztec Well are hauling water to Corn Springs in barrels for the wildlife); and in complete disrespect for "no hunting" signs, have killed or crippled many little birds.

The people who do these things should live on our desert, and learn how important our birds are to us—how trusting and pleasant they are. Perhaps desert dwellers should follow these offenders to their homes, shoot their pets, and despoil their front yards.

Wildlife is so scarce in this canyon, the area should be made into a preserve.

MRS. WILLIAM C. SEIDEL

• • •

More Snakes Than You Think . . .

Winterhaven, California

Desert:

I have wandered over the Colorado Desert for 50 years, and have seen a lot of rattlesnakes—both sidewinders and diamondbacks—in that time. While I agree with your editorial comment (*Desert*, June '58) that many areas probably have more rattlesnakes than the desert, I feel we shouldn't give the newcomer the idea that rattlesnakes are accidental out here.

I doubt if there is a mountain range or a valley in Imperial or the desert end of Riverside county where I haven't seen rattlesnakes. Our recent 10-year drouth was hard on the snakes as well as on all other forms of life, but I have evidence that some of the snakes survived: this afternoon on the mesa west of Winterhaven I killed a four-foot rattler, and last week a friend's dog died from a rattlesnake bite.

I am sure that after one of our summer rains a close observer who savvys rattlesnakes can go into the desert and find where rattlesnakes have been—if he can't locate the actual snakes.

Rattlesnakes are timid creatures. They know predators are on the prowl, both on the ground and in the air, and they stay under cover most of the time. They never travel over hot ground, and if one thinks it is unseen, it won't bother you. If you see the snake first you have the best of the encounter. My advice is to kill it.

ED ROCHESTER

• • •

A Popular Desert Drink . . .

Tucson, Arizona

Desert:

I greatly enjoyed the article, "Edible Plants That Grow Along the Desert Trails" by Dr. Edmund C. Jaeger (*Desert*, August, 1958).

Ephedra or Mormon Tea, aside from being a refreshing stimulant, enjoys considerable use as a diuretic.

The popularity of this plant is evidenced by the host of synonyms and appellations showered upon it: teamster's tea, squaw tea, Brigham tea, Canatillo, popotillo, tepopote, jointfir, jointpine, shrubby horsetail, Mexican tea, and desert tea. One may call it by any name they wish; it will still have the same desert flavor.

HUGH B. SLOAN

THE *Desert* MAGAZINE CLOSE-UPS

The meaningful essay, "Silence—the Desert's Most Precious Gift," is the work of Eleanor Nadeau Fowler of Kimberly, Idaho. Mother of three sons, active in church and community work, and an avid gardener, Mrs. Fowler has written mainly for family magazines. Her specialty is humorous situations incidental to raising boys. She also has written many inspirational articles for religious magazines.

* * *

With LaVon Teeter writing is a hobby—it has to be. "I find it a full time job to be wife, mother and chauffeur—the latter occupation taking up more and more of my time as the children grow older." Mrs. Teeter is author of this month's "From Pueblo to Classroom." Previous *Desert* articles include "Red Ryder's Creator Is

a Cowboy, Too!" (July '56), and "Land of the Luminarios" (Dec. '55).

* * *

Since May, 1957—when his last story appeared in *Desert Magazine*—popular desert writer Harold Weight of Twentynine Palms, California, has been a very busy man. In addition to his regular duties as a local librarian, Weight is working on several magazine features—which is good news to readers. His "Mojave Desert Opal Diggings" appears in this issue of *Desert*.

"Lucile and I have been concentrating largely on gathering material and photographs during the past 18 months," he writes. "In our free time we've gone on about four successful lost mine hunts (successful because we got the story and pictures, not because we found any gold!). We also have been tracing and photographing the routes of some early desert expeditions. And, we've worked on old newspaper files in the California State, Nevada State and San Bernardino County libraries, and several others."

* * *

Lt. Colonel Jack C. Novak of San

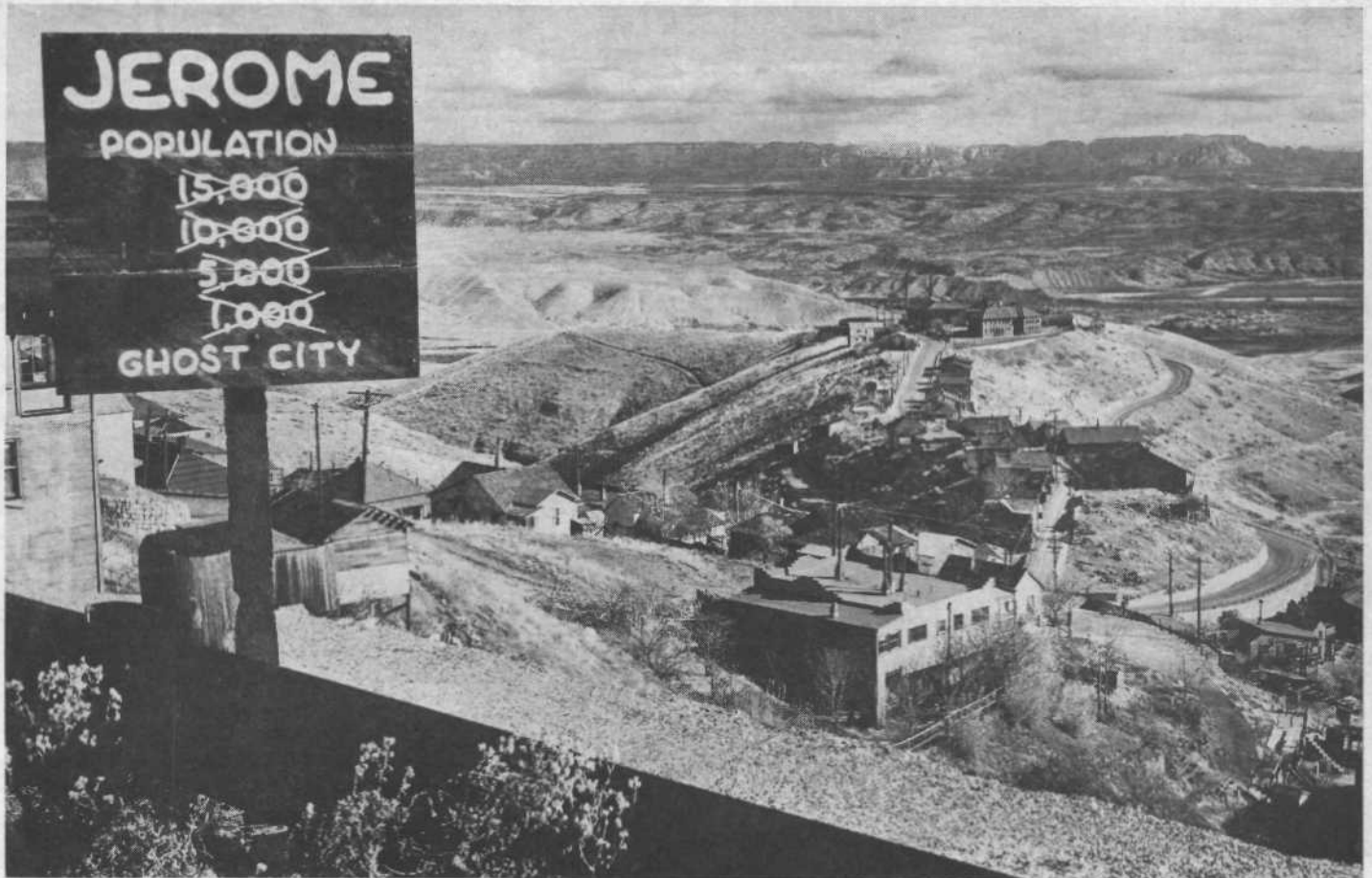
Bernardino, California, an outstanding photographer (see Pictures of the Month on back cover), was honored by the Photographic Society of America at its recent annual convention in Philadelphia. Col. Novak's "The Fascinating Desert," a group of 100 color transparencies and a 30-minute taped commentary, won the Society's 1958 Photo Essay competition.

* * *

Well-known Southwestern artist Amorita Hood, whose paintings bear the signature, Amor Ita, recently turned author for *Desert Magazine*. Her feature story, "Snakes Are His Friends," appeared in our September issue.

She is a native of Colorado where she studied art at the Colorado Woman's College at Denver. In the ensuing years Mrs. Hood has studied and painted in Western art colonies from Laguna Beach to Santa Fe. At present she resides in Wickenburg, Arizona.

Among her most successful oil paintings is the Hassayampa River scene that hangs in the wardrobe of the U.S.S. Hassayampa.



Built on a hillside, once-prosperous Jerome overlooks the Verde Valley.



The nation's largest ghost mining "city" has about 250 self-styled "living ghosts." Organized into a historical society, with membership swelled to over 1000 by sympathetic visitors, they are certainly making the most of what less vigorous folk might consider a bad situation. The town, at 5435 feet above sea level, clings to the side of Mingus Mountain in the Black Hills.

Arizona State Highway 79 winds down through the narrow streets overlooking the vast spread of the Verde Valley — past banks, hotels, schools and homes which have been sliding down the steep hillside since 1925 when 250 pounds of dynamite were set off in the Black Pit.

Once an important copper mining town, Jerome is now a tourist center, counting on its past for whatever future it may have. There are more museums than stores, and every resident is a potential storyteller of the town's raucous past.



Old Jerome prospectors Dave Gutierrez, left, and the late Robert S. "Pop" Clanton.

ON DESERT TRAILS WITH A NATURALIST

In the Land of Sagebrush



Dominant plant of the northern deserts is the sagebrush—aromatic symbol of the Southwest's high dry country. And sagebrush does more than give unique character to this great spreading land, for many desert denizens rely on it for food and shelter.

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum
Sketches by Morris VanDame

THE GREAT BASIN Desert and its environs is the kingdom of the Three-toothed Sage (*Artemisia tridentata*), known to many merely as sagebrush, and to the early Mexican miners and travelers as *chamiso hediondo* (stinking greasewood) because of its bitter taste and strong pungent turpentinelike odor. In many parts of Utah, Nevada, southern Idaho, southwestern Montana, western Colorado and the lower mountainous slopes and mesas of bordering states to the west and south, it is the dominant woody plant. It even occurs in northern Baja California for a hundred miles down the high backbone of the Sierra Juarez.

Wherever it grows, sagebrush is an important browse plant, especially in the great stock raising intermountain plains of Utah, Nevada and western Wyoming where it furnishes nourishing green food for cattle, sheep and deer when the more palatable grasses have

been eaten or are covered with snow. In forests of mixed oak and pine, it ascends to the 6000 and 7000-foot levels, and sometimes even to 8000 and 10,000 feet.

Sagebrush is always a valuable indicator of fertile soils and potential agricultural land. It thrives best in loose earth, especially the mineral-rich kinds derived from lava. In deep detrital soils consisting of volcanic ash or broken-down lava, like those of the high deserts of eastern Oregon and southern Idaho, this hardy handsome gray-green shrub with extensive root system, sometimes reaches a height of 10 to 12 feet, and has tortuous shaggy-barked stems as thick as a man's leg. A horseman riding through such sagebrush thickets can scarcely be seen. But the usual height is much less—nearer two or three feet, and in many of the monotonous high mesas of Utah and the Red Desert of Wyoming, often visited by high winds and winter bliz-

Sagebrush and Joshua trees.

zards, average height may be nearer a foot to 18 inches.

Sagebrush areas always are favorite camping places for me because of the sweet pungent smoke of my campfires. There is almost always plenty of dry deadwood available, and being rich in oils it burns with an almost-smokeless hot yellow flame. The fuel's only shortcoming is that it is so lightweight and porous it yields no lasting coals such as we get from southern desert hardwoods.

After rains, the unforgettable clean herby odor of sagebrush permeates the air for many hours, particularly at night, often being carried great distances by the wind. Immediately there comes to mind the pleasure-charged memories of outings in this charming land with its bright blue skies, broad plains and mesas, and encircling juniper-and-pine-clad slopes.

Three-toothed Sage (so-called because of the usual three "teeth" at the ends of the wedge-shaped leaves) was the vegetal remedy for many diseases, especially among the Shoshones and Paiutes. In fact, next to Coughroot or Indian Balsam (*Leptotaenia multifida*), it was the most commonly used medicine. As a tea, it was taken for colds,

influenza, stomach disorders and fevers. Made into a poultice, it was used to relieve toothache, spasms and muscular pains. The Tewa Indians ate the leaves as an effectual remedy for cough and difficult expectoration. They also used these disagreeably bitter and strong leaves to dispel flatulence and treat indigestion.

This shrub, without close botanical affinity to common garden sage (*Salvia officinalis*) used as a flavoring and condiment, is a member of the Sunflower Family. Its flowers are very small and without show of color. They are all fertile and occur in immense abundance in small gray-green heads crowded densely in elongated numerous - branched spike - like panicles. Blossoming time varies with elevation, but usually occurs in late July, August or early September, during and after the period of summer rains. At times the pollen is so plentiful and so readily shed that my clothes are colored yellow when I walk or ride horseback through sagebrush thickets. Fortunately, few people are allergic to the pollen.

Recent pollen studies made from deep (down to 600 feet) borings into clays and sands of dry lake beds indicate sagebrush has a long geological history. Particularly productive were soil samples taken from playas in Western New Mexico (St. Augustine Plains) and southeastern California (Searles Lake). Sagebrush pollen husks, exceedingly resistant to decay, always were abundant in the deep layers of borings brought to the surface.

Sometimes between layers of fill bearing *Artemisia* pollen, are layers of clay and sand with no trace of this pollen, but with pollen husks of more xerophytic desert plants such as creosote bush and the saltbushes (*Atriplex*)—an indication of climatic fluctuations from arid desert to more temperate moister weather. Thus it appears that through long ages sagebrush has been a very viable persistently-hardy shrub, ready to take over the land every time climatic factors favorable to its growth were re-established.

The only part of sagebrush used for food by man has been the very small seed. These were gathered by Indian women using beating paddles and baskets, winnowed and made into a kind of meal.

I have found several flowering plants that are parasitic or semiparasitic on Great Basin Sage. One, a member of the Figwort Family, is the showy Indian Paintbrush with its brilliant scarlet flowers set atop long leafy stems. Always exciting interest are the fleshy brittle stems of the strange Root Strangers or Orobanches (*Desert Au-*



Sagebrush Vole

gust '57) adorned with long-lipped purple or yellow flowers. One of these, with short waxy stems, has yellow pigment in all of its parts—leaves, stems and flowers.

The handsome leafy aromatic sagebrush was first described in botanical literature by Thomas Nuttall, the Anglo-American ornithologist and plant student, from specimens he gathered on the "Plains of Oregon and Lewis River." Nuttall was the naturalist dubbed "Old Curious" by the sailors in Richard Henry Dana's *Two Years Before the Mast*.

Nuttall crossed the continent to the Oregon country in 1834 on an expedition led by Captain Wyeth. While returning home he came in contact with young Dana in San Diego. Dana had known him earlier as a teacher at Harvard.

"I had left him," wrote Dana, "quietly sitting in the chair of botany and ornithology in Harvard University, and the next I saw him he was strolling about San Diego Bay in a sailor's pea jacket, with a wide straw hat and bare feet, with his trousers rolled up to his knees, picking up stones and shells."



Sage Sparrows

Thomas Nuttall's discoveries are commemorated in the names, Nuttall's Woodpecker, Nuttall's Poorwill and Nuttall's Magpie, in addition to the plant genus *Nuttallia* and a small tree called Nuttall's Dogwood.

There are several birds, large and small, whose life-histories are directly linked to Great Basin Sage, among them the Sage Sparrow, Sage Thrasher, Black-chinned Sparrow, and the large almost turkey-sized Sage Grouse, sometimes called the Sage Hen.

The Sage Sparrow is a summer visitor to the sagebrush country on the open alkaline plains of northeastern California and eastern Oregon and Washington, but when autumn comes it moves southward to the deserts of Southern California and northwestern Mexico. It is a cautious cheery little sprite often preferring to run rather than fly from one bush to another as it seeks to elude you. It has the marked diagnostic habit of nervously flipping its tail. Like so many sparrows, it is a pleasing and persistent songster, mingling melodic phrases with both tinkling and squeaky notes. It often builds its nest in sagebrush.

Other sagebrush nesters among the small birds are the shy pink-billed gray-headed Black-chinned Sparrow and the small sprightly Gray Vireo with distinctive white eye-ring. Both are cheerful untiring singers, and

heighten the joy of tramping over sagebrush-covered flats and hillsides.

The Sage Thrasher or Mountain Mocker (*Oreoscoptes montanus*) often is locally abundant in sagebrush. It has the streak-spotted breast of the Brown Thrasher, but the beak is straight — not curved — as in several other thrashers. The gray sagebrush plains of eastern Oregon are its breeding grounds and summer home. In autumn, winter and spring it is a familiar visitor to brushy areas of the deserts of Southern California, southern Arizona and New Mexico. This smaller-than-robin-sized bird of general brown color with white spots on the outer tail feathers, often locates its bulky nest in sagebrush, utilizing the stems and leaves in its construction. The three to five eggs are greenish-blue (almost the color of sagebrush) spotted with brown. One of its most unique habits is its way of running in a zig-zag course from the shelter of one bush to another when alarmed. It is an expert at hiding, often baffling the bird watcher. The song described by Hoffmann as a "long succession of warbling phrases with little range of pitch and with constant repetition of one accented note," generally is given as the performer sits atop a sagebrush or isolated post.

The big fast-flying Sage Grouse (*Centrocercus urophasianus*), with dis-

tinguishing black-patched belly, is the most conspicuous bird of the sagebrush domain. It feeds largely on the leaves of this shrub. Unusually bizarre are the courting habits of the handsome males which strut about while spreading their unique spike-like tail feathers, and inflating to amazing proportions the large feather-bare air sacs on the sides of the neck.

As might be expected, a bird so large (males sometimes weigh up to eight pounds) has long been persecuted by hunters. A century ago it was present in really amazing numbers. With the reduction of its natural haunts through recent drouths, over-grazing, agricultural encroachment and other land uses, it would have been exterminated by now had not wise laws protected it from hunters. Despite some claims to the contrary, I still feel the bird's future is precarious in areas outside game preserves.

During a recent trip through the sagebrush country of west central Nevada, the mammal which intrigued me most was the Least Chipmunk, sometimes called the Sagebrush Chipmunk (*Eutamias minimus*). It is very small as chipmunks go, unusually alert and almost invariably shy. It has, as Dr. Raymond Hall says, "a predilection for climbing into sagebrush bushes." Quick to spot any intruder, it is amusing to see one scolding in rapid and long-repeated high-pitched chirps, emphasizing concern at frequent intervals with tail flips, "two or three at a time." This lively bright-eyed chipmunk, with side stripes of brown rather than black, is strictly a sagebrush dweller.

Another small mammal which dwells where sagebrush is the dominant shrub, is the light gray short-tailed mouselike Sagebrush Vole (*Lagurus curtatus*). It lives in colonies beneath the sagebrush. Active all winter, it subsists for the most part on the inner bark and foliage of this plant. The Voles feed even when snow is deep on the ground by tunneling through it to reach their favorite food. Their well-defined summer runways from burrow - opening to burrow - opening are readily found. Although these soft-furred creatures move about both by day and night, few travelers ever see them.

A dweller of sagebrush thickets growing in loamy soils that are especially dense and tall is the buffy-tailed Pygmy Rabbit (*Sylvilagus idahoensis*), called *Tse-gu-oo* by the Paiute Indians. Sagebrush is the chief food of this attractive diminutive bunny, smallest of all rabbits, and it feeds upon it throughout the year. Their flesh is seldom eaten by humans because of its strong sage flavor. Horned owls are among its many natural enemies.



You Are Cordially Invited . . .

. . . to visit and enjoy the outstanding exhibit of Southwestern art in the spacious foyers of *Desert Magazine's* beautiful Pueblo along Highway 111 between Palm Springs and Indio, California. The finest work of more than fifty of the Southwest's best known artists make up this ever changing display.

Visitors are always welcome at the admission-free *Desert Magazine* art gallery which is open seven days a week from 9 a.m. to 5 p.m.

Adjoining the art gallery is the Desert Book and Crafts Shop where the best of current Southwestern books are available for your reading enjoyment. Visitors may browse at will in the restful atmosphere of the gallery and book shop.

"Friend or Stranger, you are welcome here."

Emily of the Desert Trails . . .

HOW WELL I remember Emily the stranger! Although our meeting was brief, still I could never forget her, for hers was a remarkable acceptance of life.

My husband, young son and I had spent a wonderful week in the Ord Mountains southeast of Daggett, California. We prospected first at Aztec Spring, so called because of its proximity to huge boulders containing ancient petroglyphs, and then moved on to Willis Well.

At sundown on the day before our departure, a trundling clatter broke the desert silence. Around the stacked stone wall that enclosed the little cove of Willis Well—all that remained of the Willis dwelling place—an old blue rattletrap of a flivver hove into view, and skittered to a shuddering stop two jumps ahead of a dust cloud.

The seats were piled high with cartons, a pail, various other articles, and a patchwork quilt. On top of this litter lay an unwieldy-looking easel.

An artist, I assumed!

From out of this clutter hopped an elderly little woman clad in faded jeans and a man's old plaid shirt. A bright bandana wrapped her wispy gray hair. We watched in mild astonishment as she started off across the desert toward a low hill, her arms clutching the easel, a box of paints and a canvas frame.

A short distance away she set up the easel and immediately began brushing her paints on the canvas. And so late in the day!

My husband grinned. "Well, another nut like us! She dabs! We dig!"

I thought the strange woman was very brave to be driving these lonely desert trails. We had been at Willis Well almost five days without seeing another person. What if her old rattletrap broke down in this remote spot?

And now twilight was upon us. We hadn't had our supper, for we had been out hiking all afternoon. I had a stew simmering on the camp stove and we planned to eat by lamplight.

But the thought of the forlorn little woman alone out in the half-dark did something to my peace of mind. I had to make some sort of gesture.

"She looks so lonely," I said to my husband. "Let's invite her to eat with us."

"Years ago when I followed the

It was to the healing desert the lonely woman came to recapture a part of the freedom and joy of life she had experienced there with her late husband . . .

desert roads on a motorcycle," replied Allan, "I was always glad when someone invited me to have a meal with them. Will you ask her?"

I hurried to the small figure beyond the wall. She turned and smiled shyly, and I saw, though her sneakers were torn and grimy, the rest of her was scrupulously clean.

"Hello," she said. "I was really going to stop by and say how-d'you-do before it got too dark. You folks camping here long?"

I explained we were leaving the next day. "We thought perhaps you'd come have supper with us. We're a little late. We've been tramping the hills all afternoon."

When she hesitated, I coaxed: "I've got a beef stew on—and it sure is a big potful! Do come!"

"Well, thank you," the stranger replied. "I'll be there as soon's I put this stuff away. I like to catch the light just right. Light's never the same on these desert hills."

I took a quick look at the painting—a pastel. I had expected something at least halfway good, but her picture was terrible! My embarrassment must have been quite evident.

But, the little woman laughed good-naturedly.

"Now dear, you don't have to kid me," she said. "You know and I know I can't paint worth a darn. But I do it for a reason. Now, Neddy could paint! He always said it was good for the soul."

I sensed tragedy behind her words, and sympathy welled in my throat, keeping me silent.

"It'll be real nice for a change, not having to open a can for my supper," she confided. "I'm not the world's best cook."

I was never to know her real identity. "Just call me Emily—that's enough."

There was something about Emily that made me feel drawn to her. She was so little and thin—so lonely looking, and obviously undernourished. I was glad I had prepared a big pot of stew.

After supper Allan built a campfire, and Emily and I sat on a folded blan-

ket laid over some large stones. We discussed the old well, and the people who had once lived here.

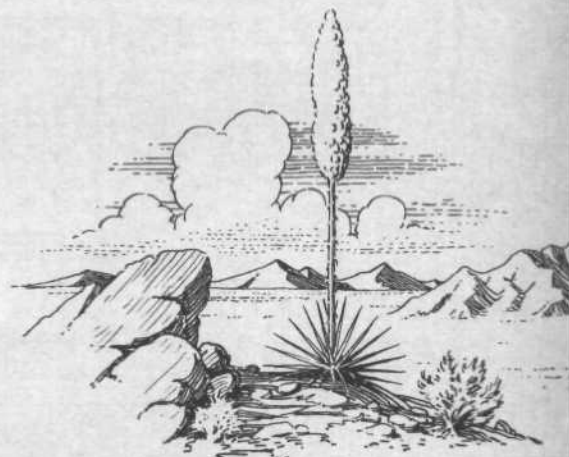
My husband had heard of the Willis during his early desert travels, but they had been gone from the Ords when he first passed through this country. Emily evidently knew more about them.

They had come to the Ord Mountains for Mr. Willis' health, she explained. "Lung-fever—same as my Neddy." Being so far from town, the pioneer couple had a rough time of it. It took nearly half a day to drive by horse and buggy into Daggett for supplies and hay. This was in 1919.

Emily's arm waved toward the corral and the 300-foot-long wall of laboriously stacked stones—a stupendous task for a lone woman to have accomplished. But Mrs. Willis evidently had set this task for herself not only to while away the long and lonely hours, but to complete the enclosure of their dwelling. The stone wall was three feet high, and from two and one half to three feet wide.

The wells were 20 feet deep, blasted out of solid rock. They looked more like rough-hewn tanks. They were filled by seepage, and had a capacity of 3000 gallons, with a water recovery of three days.

As Emily told the story of the Willis, this old deserted homestead took on a new significance for me, and I gained a deep respect for the two



people who had come to this desolate place in the hope that the husband might regain his health.

Emily became silent. I rose quietly to replenish the fire while Allan took our son Bobby off to bed. When I returned to my seat Emily was bent over, doodling in the sand with a greasewood twig. She spoke quietly:

"Ever since Neddy went away I've sort of kept on going. You see, he believed in freedom. Oh, how he loved the wild places!"

Her voice trembled with the intensity of her words. I murmured sympathetically, sensing the tragedy which had come into the life of this strange little woman. She was lonely, and wanted someone with whom she could talk.

Gently, I led her on for this was a time and place where she could overcome her shyness and speak frankly of the things that were in her heart.

"You see, Neddy and I never needed anyone else. We had a little put by, and we managed." Her low reminiscent laugh hung between us in the evening air, and I kept as still as the little mouse I had just seen by the flare of the firelight.

"With Neddy gone there's no place else I can go, for only on the desert is his presence close to me—almost like I could stretch out my hand and touch him if I could only see him!"

I blinked away my tears, emotionally sharing the poor lonely little woman's devastating sense of loss.

Suddenly she grasped my hand. "I'm not feeling sorry for myself, mind you!" Emily exclaimed. "We had a good life together, and what's happened had to be. Neddy was always telling me: 'Happiness is just a state of mind. Be happy wherever you are—it all depends on you!' We were happiest in the wild places, because—well, because the only ones you could trust were the little people of the wild. They'll never let you down!"

Again I spoke comfortingly. I felt a deep concern for this lonely woman. Suppose she met with an accident, or became ill? Problems do arise even out in the desert solitudes. Could she change a tire? I hoped so.

A feeling of responsibility nagged me. A woman of Emily's age ought to be safe at home with family or relatives. I was thankful darkness hid the concern I knew was written on my face.

One does not advise a stranger. One respects another's right to privacy and own way of life. As though she sensed my unspoken thought, Emily added defiantly: "I don't have much to do with people. So few can understand my need for the desert silences. Others think I am just a mite crazy." Then she laughed, "Guess maybe I am! But, I'm happy that way!"

Emily's eyes were sad dark pools in the shadowed fire glow. "We'll stay out in Nature's front yard," Neddy always said. "The birds and the critters won't hurt us, nor will they pry into our past!"

I watched the leaping flames and shadows, listening spellbound. What mystery might be divulged?

Suddenly Emily spoke. "I don't know why I want to tell you this, my dear, but if you don't mind listening to an old woman . . ."

Hurriedly I assured her it would be an honor to listen—and for 19 years I have kept her confidence—long past the promised time for silence.

"We'd have been married 43 years the day after tomorrow. That's a long time for two people to get along so well. He's only been gone eight months now — we came from the Midwest. Neddy got in trouble. He was too trusting. He paid for that trust—three long years of his precious life!"

Her voice trembled. "Three years shut up in a cage! My Neddy, who loved the outdoors so! That's why we stayed away from the cities and people. People!" Emily's tone was bitter for a brief moment.

"The desert is wonderful—it's healing. We hoped he might get cured. Folks do get cured out here. But still, God was good to us. Neddy lived to enjoy many happy years just wandering and painting."

Thus has Emily and Neddy's creed that on the great desert the problems and complexities of life are necessarily dwarfed by the very immensity of the land itself, helped us in our own adjustment to life.

And so Emily the stranger lives on in memory, always a part of the desert on which we now live.

'49ers Death Valley Encampment, November 6-9

Dedication of a historical monument commemorating the agonizing escape from Death Valley by emigrating '49ers, will highlight the 10th Annual Death Valley Encampment. This year's event will be held on the weekend preceding Veterans' Day (November 11), starting Thursday, November 6, and concluding Sunday, November 9.

The celebration, sponsored by the Death Valley '49ers, Inc., opens at 10 a.m. Thursday at Castaic near Newhall on U.S. Highway 99, with the unveiling of a historical monument to William Lewis Manly and John Rogers. These men walked from Death Valley to the Newhall area to seek food and horses for their return rescue trip to the valley.

Another special feature of this year's Encampment will be the ground breaking for the Death Valley Museum and Visitors' Center.

Geologist Dr. Thomas Clements and

Monument Superintendent Fred Binnewies will conduct tours of the Valley region on Friday, Saturday and Sunday. A special Jeep tour, led by '49er Vice President Harold H. Ihrig, also is planned.

THURSDAY, NOVEMBER 6

7:00 p.m.—Campfire program, Sand Dunes near Stove Pipe Wells; square dance at Stove Pipe Wells Hotel.

FRIDAY, NOVEMBER 7

8 a.m. — Artists' Breakfast, Furnace Creek Ranch.

10:30 a.m.—Conducted tour.

7:30 p.m.—Campfire program, Texas Springs; followed by square dance, Furnace Creek Ranch.

SATURDAY, NOVEMBER 8

8:30 a.m.—Photographers' Breakfast, Furnace Creek Ranch.

10:30 a.m.—Conducted tour.

12 noon—Chuckwagon lunch at Stove Pipe Wells.

2:00 p.m.—Shooting demonstration of old-fashioned rifles. Stove Pipe Wells.

2:30 p.m. — Burro Flapjack Sweepstakes at Stove Pipe Wells.

7:00 p.m.—Evening assembly at Furnace Creek Ranch, followed by square dance.

SUNDAY, NOVEMBER 9

Sunrise—Protestant Services, Desolation Canyon.

7 a.m. — Catholic Mass, Furnace Creek Inn garden.

8:30 a.m.—Authors' Breakfast, Furnace Creek Ranch.

10:45 a.m.—Conducted tour.

Hotel reservations are limited. For Furnace Creek Inn, Ranch and Amargosa Hotel write or phone Fred Harvey Company, 530 W. 6th Street, Los Angeles 14, TRinity 8048. For Stove Pipe Wells Hotel, write hotel, c/o Death Valley, California, or phone or write Stove Pipe Wells Hotel, 108 W. 6th St., Los Angeles 14, VAndyke 2937. For Scotty's Castle, write or phone 1462 North Stanley Avenue, Hollywood 46, HOLlywood 5-1223.

Hobbyists Who Scan the Desert Night Sky

In this desertland of brilliantly-clear and comfortable nights, amateur astronomy is becoming a popular hobby. A great deal of credit for this mounting participation is due the 500-member Las Cruces, New Mexico, Association of Lunar and Planetary Observers — amateurs and world-renowned professional astronomers pooling their findings to swell man's understanding of the solar system.

By GASTON BURRIDGE

THE NUMBER of amateur astronomers is growing rapidly in the Southwest — and for good reason. This region's clear dry air is especially well suited for telescopic exploration of the sky.

Like desert gem collectors, the amateur astronomers are forming clubs and societies to enhance their knowledge and enjoyment of a common interest. One of the most outstanding of these groups—with an international membership — is the Association of Lunar and Planetary Observers with headquarters at 1835 Evans Place, Las Cruces, New Mexico. I am one of its nearly 500 members.

ALPO is presided over by its founder, Professor Walter H. Haas, mathematician at New Mexico College of Agriculture and Mechanical Arts who has had various assignments at the White Sands Proving Grounds.

Early in his career, Haas was an assistant to William H. Pickering, a noted astronomer. Pickering had developed an extensive correspondence with many amateur astronomers throughout the world. After his death, Haas continued this correspondence—the basis for the founding of ALPO.

Though ALPO is mainly an amateur astronomical group, it has many professional astronomers' names on its membership list. Among them is Pro-

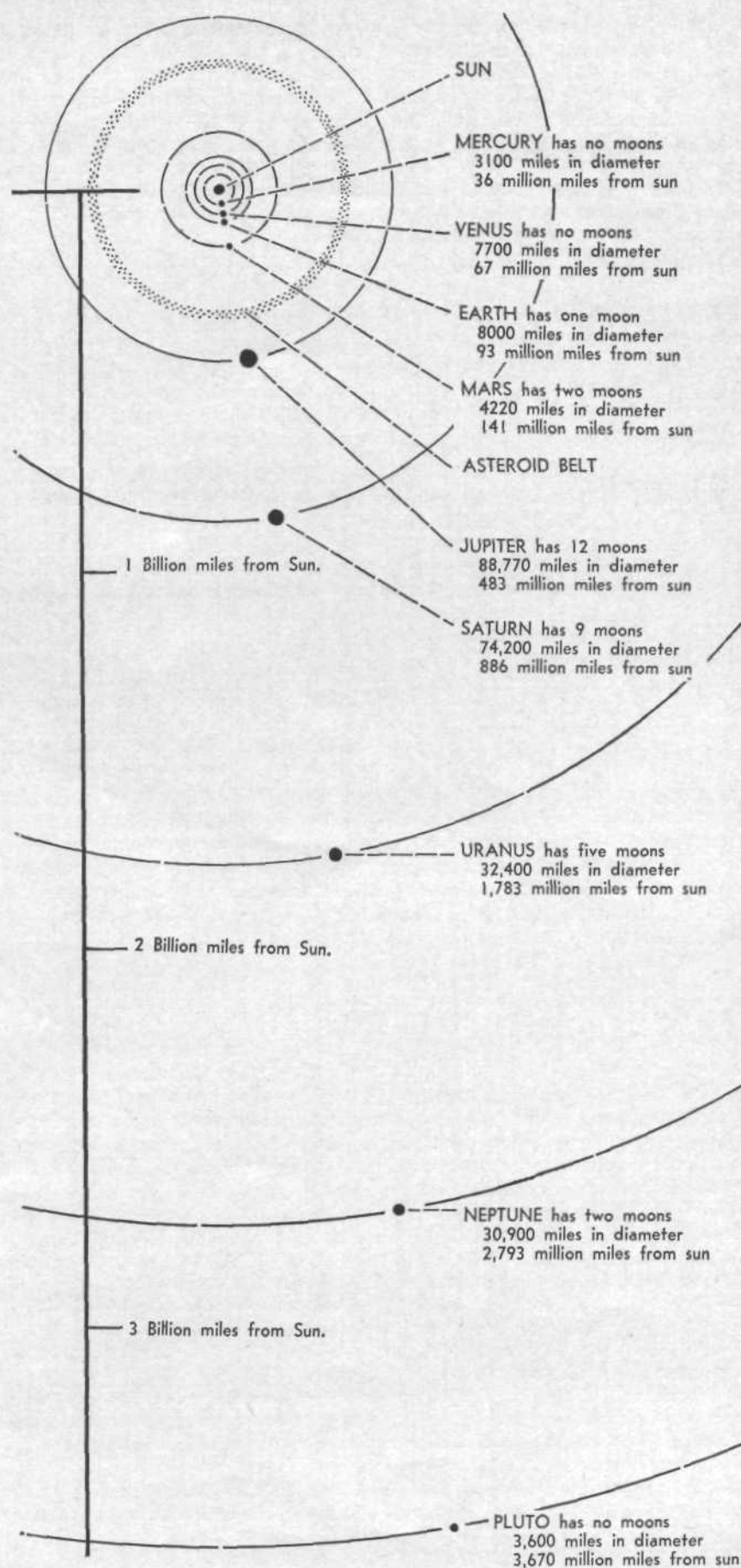


Chart showing comparative distances of the planets in our Solar System from the Sun

fessor Clyde Tombaugh, the man who discovered Pluto at Flagstaff's Lowell Observatory in 1930. Pluto is the ninth and last planet of our solar system — farthest removed from the sun.

Another graduate from the ALPO amateur class is Thomas Cragg. He is presently doing important work at Mount Wilson Observatory, California,

in connection with observations of our sun.

Charles F. Capen, Jr., of Las Cruces went overseas with the Baker-Nunn Satellite Camera Group in Iran—an International Geophysical Year Observation mission. He, too, is an ALPO member.

One of the founding fathers of ALPO is J. Russell Smith of Eagle

Pass, Texas. Smith is a science teacher at the Eagle Pass Junior High School, and operates his Skyview Observatory as an avocation. This observatory and its accouterments would rank high with many college observatories.

Still another of the Southwest's important ALPO members is Dr. Lincoln LaPaz, Director of the Institute of Meteoritics, University of New Mexico, Albuquerque.

Many other noted ALPO members reside in other parts of our country and the world. Among them is Patrick Moore, Sussex, England, secretary of the Lunar Section of the British Astronomical Association. He is the author of several astronomical books. Presently he is editor of *Spaceflight*, an interesting quarterly magazine published by the British Interplanetary Society.

Some ALPO members build their own equipment—even to grinding the highly critical telescope mirrors and lenses. Others buy the optical components, then build their telescopes around these parts. Still others buy the complete instruments.

Telescopes are not as expensive as they used to be, but a good dependable instrument for the average hobbyist's needs will cost around \$100. Sizes vary from lenses two inches in diameter to mirrors 16-inches across. Several ALPO members have domes to house their telescopes.

A few members have more than one telescope—sometimes permanently housing a larger instrument under a dome, and carrying a smaller easily-assembled portable scope in their cars. And, as in most hobbies, there are those ALPO members who collect equipment only.

ALPO has a publication, *The Strolling Astronomer*. This fine little magazine has no regular publication date at present, but appears as frequently

Desert Quiz

Here are 20 quiz problems for those who like to test their knowledge of the Southwest — its history, geography, wildlife, botany, mineralogy and lore of the desert country. It is not an easy test—and it will help if you mix a bit of common sense with your knowledge of the region. Twelve correct answers is a fair score, 13 to 15 is good, 16 to 18 excellent, and 19 or 20 very exceptional. The answers are on page 33.

- 1—Tamarisk trees now widely grown in the Desert Southwest are valued chiefly for their—Fruit..... Hard-grained wood..... Perfume..... Windbreak and ornamental value.....
- 2—If you wanted to get a glimpse of the peccary, or javelina, which still runs wild in the Southwest, you would go to—Kaibab Forest..... Painted Desert..... Death Valley..... Southern Arizona.....
- 3—The name Moqui used by early writers and settlers, referred to the tribe of Indians now known as—Hopi..... Apache..... Zuni..... Acoma.....
- 4—The name Herbert Bolton is best known to Southwesterners through his—Mining activities..... Books..... Exploration of Grand Canyon..... Archeological discoveries.....
- 5—Phantom Ranch is located in—Death Valley..... Zion Canyon..... Grand Canyon..... Canyon de Chelly.....
- 6—Present director of the National Park Service is—Conrad Wirth..... Fred A. Seaton..... Newton Drury..... Frank Albright.....
- 7—California's Salton Sea was formed in 1905-6-7 by waters from—Cloudbursts in the adjacent mountains..... Flood waters from the Colorado River..... Overflow from the Gulf of California..... Seepage from subterranean channels caused by earthquake shocks.....
- 8—Joshua tree is a species of—Yucca..... Palm..... Agave..... Cactus.....
- 9—First wagon train was brought across the Arizona-California desert region by — Butterfield..... Mormon Battalion..... Lieut. Beale..... Capt. Bautista de Anza.....
- 10—The legendary home of the Hopi Katchinas is—Navajo Mountain..... White Mountains in Arizona..... San Francisco Peaks..... Sangre de Cristo Mountains in New Mexico.....
- 11—Turquoise derives its blue-green coloring from—Iron..... Copper..... Manganese..... Zinc.....
- 12—The Heard Museum is located in — Phoenix..... Tucson..... Albuquerque..... Casa Grande.....
- 13—The White Mountain Indian reservation belongs to the—Navajos..... Apaches..... Papagos..... Mojaves.....
- 14—Scottsdale, Arizona, is famed for its—Copper mines..... Hot mineral springs..... Indian ruins..... Arts and crafts.....
- 15—If you wanted to climb Wheeler Peak you would go to—California..... Nevada..... New Mexico..... Arizona.....
- 16—The blossom of the Salt Cedar is—Yellow..... Lavender..... White..... Crimson.....
- 17—Harold S. Colton is best known as—A former governor of Arizona..... Founder of the Museum of Northern Arizona..... Superintendent of Grand Canyon National Park..... Designer of Hoover Dam.....
- 18—The old Arizona state prison at Yuma is now used as a—Jail for Yuma County..... Historic museum..... American Legion hall..... Unoccupied landmark.....
- 19—Anza-Borrego Desert State Park is in—California..... Nevada..... Arizona..... Utah.....
- 20—Leader of the original expedition in quest of the Seven Cities of Cibola was—Cortez..... Vargas..... Coronado..... Diaz.....

PHOTO CONTEST

You are invited to enter desert-subject photographs (black and white, 5x7 or larger) in Desert's monthly photo contest.

One entry will be selected each month, and a \$10 cash prize awarded to the photographer. All other entries will be returned—provided postage is enclosed.

For non-winning pictures accepted for publication, \$3 each will be paid. The contest is open to all, and time and place of photograph are immaterial—except that the photo must be of a Desert Southwest subject.

Address all entries to:

PHOTO CONTEST
DESERT MAGAZINE
PALM DESERT, CALIFORNIA



Walter Haas, founder and director of ALPO.

as Haas has time to gather and edit its contents.

The organization had not existed long before the clerical work became so great Haas had to have help. This was accomplished by appointing several members as Recorders. Under the Recorder system, any member making an interesting observation of Mars or the Moon, for instance, reports it to the Mars Recorder or to one of the Lunar Recorders, not to Haas directly. Each Recorder coordinates the material thus received and passes it on to Haas for such use as fits current requirements and space in the magazine. Of course, all observations are kept on record, whether published or not.

Today, *The Strolling Astronomer's* staff consists of 11 Recorders and two assistant Recorders, in addition to the editor, secretary, librarian and counsellor. There are Recorders for the planets Mercury, Venus, Mars, Jupiter, Saturn and Uranus-Neptune, and assistant Recorders for Mars and Jupiter. ALPO also has a Recorder for comets. Three Recorders are necessary for the moon, and there is one Lunar Meteor Search Recorder.

Because of the moon's proximity to Earth, and because our moon is so large a satellite, naturally there is great interest in this body with amateurs. This explains why there are four Lunar Recorders.

The moon has provided ALPO with its most spectacular controversy, though probably not—at least as yet—with its most worthy accomplishment! There have been many unexplained—and as far as our present

knowledge goes, unexplainable—observations made of the moon. Apparent changes in its topography have been noticed since earliest times. Flashes of light coming from the moon frequently are reported. One explanation for these flashes could be the moon was struck by large meteors—but no one is certain. There are many strange observations on record—not only made by amateurs, but by astronomers of high repute. Thus, the following account may not seem so fantastic to the uninitiated.

The late John J. O'Neill, science editor of the New York *Herald Tribune* and early ALPO member, had been a close moon observer for many years. On the night of July 29, 1953, O'Neill was observing our satellite. It was on its northerly course and ap-



Discoveries made by this recently-completed Skyview Observatory telescope and hundreds of other instruments owned by ALPO members are recorded in the club's official publication.

proaching the equator when O'Neill made a discovery that touched off a controversy by no means resolved even today.

He was examining that portion of the moon known as Mare Crisium, a "moon sea." Suddenly he made a startling discovery—a huge natural bridge across a far end of Mare Crisium!

O'Neill checked his telescope. Nothing was at fault. The night was clear—excellent viewing conditions prevailed. O'Neill changed eye-pieces twice during the hour and a half he held the bridge under surveillance. The object remained fixed!

This bridge was a mile high and

calculated to be 12 miles between pediments. Its arch was almost a mile wide at the center. In shape, the span was straight and symmetrical. It cast a shadow. The sun could be seen streaming beneath the long curve.

O'Neill knew the furor an announcement of such a bridge would cause in astronomical circles should he print his findings in his own paper. Instead, he forewent the scoop, and in a cautiously-worded statement published the information in *The Strolling Astronomer*.

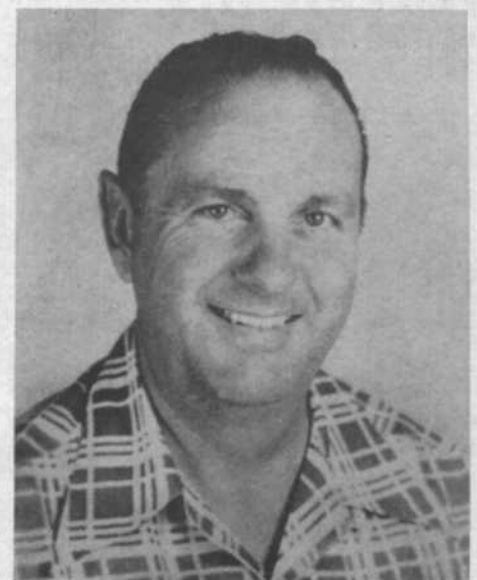
O'Neill expected quick and voluminous attack on his discovery. Strangely, it came very slowly.

In August, 1953, Dr. H. P. Wilkins, an English moon authority, confirmed O'Neill's discovery. Several other ALPO members I talked to say they have seen the bridge. Only lately have professional astronomers begun to vehemently deny the bridge's placement. In a recent television program, Dr. Donald H. Menzel, astrophysicist of Harvard University, flatly stated there was no such bridge. Thus is ALPO and its members in the thick of a scientific argument.

Many ALPO members also belong to locally-organized amateur astronomers' clubs. There is fine cooperation between these groups. Arizona has societies in Phoenix and Tucson. New Mexico has them in Roswell, Las Cruces and Albuquerque. Nevada has one in Reno; Utah's lone club is located in Salt Lake City. Texas has 11 societies; California, 20; and Colorado, four.

The hobby is growing. These are good people with whom to share one's interest in the mysterious heavens.

J. Russell Smith, Eagle Pass, Texas, school teacher and operator of the Skyview Observatory.



Here and There on the Desert . . .

ARIZONA

State Park Network Approved . . .

PHOENIX — A network of parks embracing all sections of Arizona was approved in principle by the State Parks Board. Its program encompasses six scenic areas, eight recreation areas, seven state monuments and 84 landmarks by 1965. Designation of each as a state park will be asked of the Legislature. Parks Director Dennis McCarthy said he envisions complete restoration of Tubac Presidio, historic fort about 20 miles north of Nogales. — *Copper Era*

Navajos Ban Unions . . .

WINDOW ROCK — The Navajo Tribal Council has closed the reservation to union organizers. It cited the unions' failure to guarantee Indians adequate protection against exploitation and abuses as the reason for the decision. The Council said unions are not democratically controlled, and the Navajo is not yet able to comprehend

union organization and the classification of workers. The Council emphasized the restriction was not permanent. The Navajo work force numbers an estimated 12,000. Almost all are unskilled laborers.

Museum Growth Noted . . .

TUCSON — Arizona-Sonora Desert Museum facilities have more than doubled, and the number of animals on display has more than tripled since 1954. New major exhibits include the Bear Pit, Prairie Dog Village, hoofed-animal enclosures, two large circular aviaries, Tunnel exposition, and desert fish exhibit. The Amphibian Room—a group of living dioramas featuring frogs and toads of the Southwestern deserts—recently was opened to the public.

Holliday Gets His Tombstone . . .

TOMBSTONE — After 70 years the grave of one of Tombstone's most famous early-day gunmen and gamblers, Doc Holliday, has been marked with a tombstone. The final resting place is in Glenwood, Colorado, where the tubercular Holliday passed away on November 8, 1887. Written on one side of the headstone is: "He Died In Bed" — quite an accomplishment for a man who so often courted death. Glenwood is making plans to improve the road to the cemetery so history-minded tourists can view the grave. — *Tombstone Epitaph*

Navajos' Blood Sampled . . .

WINDOW ROCK — State Health Officials, suspecting soft drinks have raised the sugar content in the blood of Navajos, made upwards to 3000 blood tests of tribesmen recently. Blood samples 20 years ago showed the Navajos had much lower sugar content than white men, and that their liquid diet consisted mostly of coffee. Today, however, large quantities of soda pop are included in the Navajo diet. — *Yuma Sun*

Army Approves Cibola Bridge . . .

CIBOLA — The Army Corps of Engineers has sanctioned modifications on the illegally-built Cibola Bridge over the Colorado River that will bring it up to required standards. The bridge owners were given 180 days starting from August 5 to make the changes, to cost an estimated \$15,000 to \$17,000. Approved alterations include two adjacent 20-foot passages in the deep part of the stream with a minimum clearance of 12 feet at high river level. Another opening will be provided for canoes near the California shore. The present drawbridge will be abandoned, and there will be no opening in the bridge deck. — *Palo Verde Valley Times*

WINDOW ROCK — New general superintendent of the Navajo Agency is Glenn R. Landbloom, veteran Indian Bureau employee. Landbloom was assistant area director for the Bureau at Aberdeen, South Dakota, before accepting the Navajo assignment. He succeeds G. Warren Spaulding who retired August 31 after more than 30 years of service with the Bureau and four years as head of the Navajo Agency.

FLAGSTAFF — Dr. John S. Hall of the U. S. Naval Observatory in Washington, D. C., has been named director of the Lowell Observatory (*Desert* July '58). Dr. Hall succeeds Dr. Earl Slipher, acting director since January, 1957.

CALIFORNIA

Shrimp Planted in Colorado . . .

LAKE HAVASU — If a recent trial planting in Lake Havasu of freshwater shrimp is successful, the entire Colorado River will benefit by better fishing conditions. The California Department of Fish and Game is using the lake as a laboratory in trying to expand the food supply of sport fish in the river, which now lacks invertebrate food organisms. If the shrimp thrive, the small creatures are expected to spread to all parts of the river. Maximum size is about two inches. — *Palo Verde Valley Times*

River Decision Due in 1959 . . .

SAN FRANCISCO — Supreme Court Special Master Simon H. Rifkind announced that he will decide the Colorado River water suit in the



Camper's Choice—KAR KAMP Sets up in 5 Minutes

You'll be all set to enjoy the outdoors year 'round in a KAR KAMP. It's always ready for that spur-of-the-moment week-end vacation or hunting or fishing trip.

Unrolls from aluminum carrier on top of car and assembles into a completely enclosed room 7½x10½' in just 5 minutes. Rolls back into carrier in even less time. Entire interior is useable. No center poles. All corners, doors and windows are equipped with rust-proof zippers. The 8 oz. D.F. canvas utilized is water-repellent and mildew proof. Full size canvas floor covering included. KAR KAMP, when erected, gives you direct access to your car and can be quickly detached allowing car to be driven away.

Complete 7½x10½' room, including carrier, only \$199.95 freight prepaid. Smaller sizes also available. Order now! For further information write:

KAR KAMP MFG. 8925 EAST GARVEY AVENUE
SOUTH SAN GABRIEL, CALIF.
A few choice territories available for agents.

SOURDOUGH . . . The Dough that Fed the West

Now Yours to Enjoy in the Convenience of Your Kitchen or While Camping



One packet of Sourdough Jack's dehydrated starter will produce an unlimited amount of light easily-digestible pancakes, bread, rolls, and biscuits with a delightful sourdough flavor. That indispensable sourdough pot carried by pioneers and prospectors can now be created by this authentic sourdough starter whose origin goes back 65 years. Made of the finest ingredients. Instructions and basic recipes included. A novel gift for hunters, fishermen, rockhounds or other outdoorsmen. Send \$1.00 for 1¾-oz. packet. Cash, check or money order. No C.O.D.'s.

DESERT HOUSE P. O. Box 802 Apple Valley, California

\$1.00

DON'T LOSE OR BREAK YOUR GLASSES?

Protect with SAFETY CLIP-ON CASE. Lost or broken glasses mean lost dollars and time for you . . . protect against this disaster with the case that clips firmly in your pocket. GET IT ON OUR SENSATIONAL GUARANTEE—MONEY BACK PLUS 25¢ EXTRA. Yes . . . we'll return \$2.25 if you are not delighted. Tan saddle leather throughout—includes highly useful pen & pencil compartments, quality made—try at our risk. Send only \$2. each (includes postage) for No. 237, SAFETY CLIP-ON CASES to: BAUER-LEE & CO., Dept. 16 Sierra Madre, Calif.



fall of next year. At stake is division of the water in the river's lower basin, and legal consequences of the case could have important effects on the entire West. After Rifkind reaches a decision in the suit initiated by Arizona against California in 1952, he will circulate drafts of his recommendations among the parties involved. When they have had a chance to comment, he will forward the decision and the comments to the Supreme Court. The court will then render a final verdict.—*Yuma Sun*

Sierrans Battle Litter . . .

BISHOP—Three tons of litter discarded by High Sierra campers and hikers was picked up by a volunteer crew of 28 Sierra Club members this summer. Group leader was Fred Eisler of Santa Barbara. The cleanup was conducted in the Kearsarge Pass-Bullfrog Lake area. One tin can buried in 1937 was uncovered in good condition, showing that decomposition of metal at this 11,000 foot elevation is extremely slow.—*Inyo Register*

Salton City Comes to Life . . .

SALTON CITY—A minimum of 1000 permanent residents are expected in Salton City by Christmas, the new community's chamber of commerce predicted. First priority has been given to securing expanded police and postal facilities for the fast-growing area. The land boom started in May of this year when developers sold an estimated \$4,500,000 worth of property in 18 hectic hours.—*Coachella Valley Sun*

New Snake Repellent Studied . . .

LOS ANGELES—UCLA Zoologist Raymond B. Cowles reports rattlesnakes can be frightened by the odor of a skunk. This points to a possible way of making campsites and homes

in snake-infested areas safer, he said. Tests are underway to determine just how effective the odor can be in scaring off the reptiles. Slightly more effective than the skunk odor was the smell of a king snake, the rattlers' natural enemy.—*Ledger-Gazette*

Museum Contract To Be Let . . .

DEATH VALLEY—Assurance of state support for the proposed \$350,000 public museum in Death Valley was announced by Death Valley '49ers, Inc. The organization expressed hope that the contract for construction of the museum might be let before the November 6-9 Encampment. According to present plans, the museum, auditorium and information center would be erected in the center of maximum use in the National Monument, adjoining State Highway 190 and the Furnace Creek Ranch.—*Inyo Register*

Salton Sea Corvina "Lost" . . .

SALTON SEA—The transplanted ocean corvina in Salton Sea played tricks on anglers this summer by providing "boom-and-bust" fishing opportunities. Few of Salton Sea's corvina were caught until this past spring when anglers easily hooked the daily limit of six fish in the shallow water near shore. As summer approached the corvina moved to deeper water—quickly followed by the fishermen. Then the fish suddenly became "lost" again, the schools apparently moving on.—*Calexico Chronicle*

NEVADA

State Sheep Industry Down . . .

CARSON CITY—The 1958 Nevada lamb crop—303,000—is the lowest since the 1890s, a Department of Agriculture survey disclosed. However, the Department said production percentages are improving. This year 89 percent of the state's lamb crop was saved, the best percentage since 1936.—*Humboldt Star*

New Threat to Gamblers . . .

LAS VEGAS—Nevada's gambling industry is eyeing with growing concern the possibility of a large scale revival of legalized gambling in those northern Mexican states bordering on the United States. One casino at Rosarito Beach in Baja California was reported operating at full blast. —*Territorial Enterprise*

Political Signs Barred . . .

CARSON CITY—All political advertising material that has been placed within the highway right-of-way or over any portion of a state highway must and will be removed, State Highway Engineer H. D. Mills declared.



**Ideal for Outdoor
Living and Traveling!**

BERNARD Kamp-Pack

★ Now, a delicious concentrated food in foil that never spoils. Proved in use on year-long safaris in hottest Africa and on expeditions to chill Alaska. Won't freeze—won't spoil. Waterproof, too.

★ Packed in waterproof Kraft paper pouches, lined with heavy aluminum foil.

★ Choose from an assortment of delicious breakfasts, tasty lunches, and complete dinners. Rich buttermilk pancakes, savory soups, hot biscuits, beef stews, and puddings. Over 114 tasty varieties, including new non-perishable freeze-dried meats. Four and eight-man individual packages as well as four and eight-man complete meals.

Write for complete catalog and order form

Mail Coupon TODAY!

Bernard Food Industries, Inc.
1208 East San Antonio Street
San Jose 27, California

Gentlemen: Please send me your complete price list and catalog of Kamp-Pack Foods.

Name _____
Address _____
City _____
State _____

ANSWERS TO DESERT QUIZ

Questions are on page 30

- 1—Windbreak and ornamental value.
- 2—Southern Arizona.
- 3—Hopi Indians.
- 4—Books.
- 5—Grand Canyon.
- 6—Conrad Wirth.
- 7—Flood water from the Colorado River.
- 8—Yucca.
- 9—Mormon Battalion.
- 10—San Francisco Peaks.
- 11—Copper.
- 12—Phoenix.
- 13—Apaches.
- 14—Arts and crafts.
- 15—Nevada.
- 16—Lavender.
- 17—Founder of the Museum of Northern Arizona.
- 18—Historic Museum.
- 19—California.
- 20—Coronado.

THE DESERT TRADING POST

Classified Advertising in This Section Costs 12c a Word, \$2.00 Minimum Per Issue

BOOKS — MAGAZINES

OUT-OF-PRINT books at lowest prices! You name it—we find it! Western Americana, desert and Indian books a specialty. Send us your wants. No obligation. International Bookfinders, Box 3003-D, Beverly Hills, California.

"GEMS & MINERALS Magazine," largest rock hobby monthly. Field trips, "how" articles, pictures, ads. \$3.00 year. Sample 25c. Box 687 J, Mentone, California.

"POPULAR PROSPECTING"—A book to save precious time. Know what to look for. Only \$2. Worth much more. Lobo, Box 144, Carlsbad 7, New Mexico.

INDIAN GOODS

FROM OLD Comanche hunting grounds: Indian artifacts, buffalo skulls. Mounted horns, Western lamps. Prices on request. Thunderbird Trading Post, Highway 80 at Brazos River, Millsap, Texas.

AUTHENTIC INDIAN JEWELRY, Navajo rugs, Chimayo blankets, squaw boots, old Indian collection. Closed Tuesdays. Pow-Wow Indian Trading Post, 19967 Ventura Blvd., East Woodland Hills, Cal.

SELLING 100,000 Indian relics. 100 nice ancient arrowheads \$25.00. Small grooved stone tomahawk \$2.00. Large grooved stone tomahawk \$3.00. Perfect spearhead over 8 inches long \$20.00. Flint scalping knife \$1.00. Indian skull \$25.00. Ancient water bottle from grave \$7.00. List free. Lear's, Glenwood, Arkansas.

FINE RESERVATION-MADE Navajo and Zuni jewelry. Old pawn. Hundreds of fine old baskets, moderately priced, in excellent condition. Navajo rugs, Chimayo homespun, artifacts. A collector's paradise! Open daily 10 to 5:30, closed Mondays. Buffalo Trading Post, Highway 18, Apple Valley, California.

THREE FINE prehistoric Indian war arrowheads \$1. Flint scalping knife \$1. Rare flint thunderbird \$3. All for only \$4. Catalog free. Arrowhead, Glenwood, Ark.

FLINT ARROWHEADS easily made! Inexpensive, fun, profitable. Indian or modern method. Free details. Wagon Wheel Ranch, Highway 5, Mt. Home, Arkansas.

"MAGIC KACHINAS" booklet. Make Hopi Indian kachina spirit images. Carve—paint. Story, map, patterns. Well-illustrated, informative. For your copy, send \$1.00—Ethos Publishing Co., P.O. Box 5056, Phoenix, Arizona.

REAL ESTATE

30 ACRES desert land at Newberry, east of Barstow near Highway 66. Water table 15 feet, electricity and good well. Near mountains and gorgeous view of the desert. Terms, and will divide. Owner: Green, 8260 West 4th St., Los Angeles 48, WEbster 9-0938.

5 ACRES LAND, water right, three bedroom flagstone house, garage and store-room. \$6000. For full information write Box 206, Chloride, Arizona.

FOR SALE or trade: rockhounds' winter playground, seven acres, Highway 93 frontage, home, irrigation water, wonderful business opportunities, mild weather, mountain desert setting. Across from postoffice. Bad health forcing sale. Consider home or first paper. Thirty agate specimen deposits. Large stock and machinery optional. Property clear. Highway 93 Rock Shop, Arizona Agate Mines, Wikieup, Arizona.

GROCERY STORE, motel, service station. Highway 66. Nets 10%. Priced at \$65,000, will trade up or down for income property. Submit offer. Jack M. Riddle, Cadiz, California.

CANTIL NEAR Red Rock Canyon. New 1580 square foot deluxe desert home, 2½ acres, oversize garage, patio, GE Kitchen Center, air conditioned, marble bathroom, fireplace, sleeps 8. Complete privacy, yet close conveniences dynamic area. Rent furnished or unfurnished—sacrifice sale. For information: D. Wolcott, 1875 Broadway, San Francisco 9.

DESERT ACREAGE—5, 10 and 20 acre parcels. Boron, Kramer, Adelanto, Barstow and other areas in all counties. Terms as low as \$10 down and \$10 month. 2314 Westwood Blvd., Los Angeles 64, Calif. GRanite 9-0200.

CLUBS — ORGANIZATIONS

ARE YOU interested in prospecting for minerals, or rockhunting? Write for literature to United Prospectors, 701½ E. Edgeware, Los Angeles, 26, California.

MAPS

SECTIONIZED COUNTY maps — San Bernardino \$1.50; Riverside \$1; Imperial, small \$1, large \$2; San Diego 50c; Inyo, western half \$1.25, eastern half, \$1.25; Kern \$1.25; other California counties \$1.25 each. Nevada counties \$1 each. Topographic maps of all mapped western areas. Westwide Maps Co., 114 W. Third St., Los Angeles, California.

MAP OF TOMBSTONE, Arizona Territory, 1882. An authentic and decorative map of old Tombstone showing the principal buildings and the locations of famous gun battles. Beautifully printed in two colors on fine paper 17"x20", and mailed postage paid in strong cardboard tube. Send \$1 to Southwestern Maps, 902 S. Eli Drive, Tucson, Arizona.

WESTERN MERCHANDISE

FREE CATALOG: Western wear, boots, saddles, leather supplies. Silver Spur, Box 1785-JJ6, Fort Worth, Texas.

MISCELLANEOUS

ASSAYS. Complete, accurate, guaranteed. Highest quality spectrographic. Only \$5 per sample. Reed Engineering, 620-R So. Inglewood Ave., Inglewood, California.

GHOST TOWN ITEMS: Sun-colored glass, amethyst to royal purple; ghost railroad materials, tickets; limited odd items from camps of the '60s. Write your interest—Box 64-D, Smith, Nevada.

FLINT ARROWHEAD making instructions. Illustrated. Ancient methods. \$1.00. Amaze friends! Guaranteed. Genuine rattlesnake rattle and ancient flint arrowhead bolo ties, \$3.50. Both \$6.00. "One of a kind" items. Chief Blackhawk, Kennewick 7, Washington.

LADY GODIVA "The World's Finest Beautifier." For women who wish to become beautiful, for women who wish to remain beautiful. An outstanding desert cream. For information, write or call Lola Barnes, 963 N. Oakland, Pasadena 6, Calif., or phone SYcamore 4-2378.

SWAP. TWO 10-horsepower 220-440 motors, for good four-wheel drive Jeep. D. R. Smith, 1343 South Mt. View, Pomona, California.

MODEL 111-B Scintillation Counter like new, \$125 cash or C.O.D. Reed Engineering, 620 S. Inglewood Avenue, Inglewood 1, California.

HAND MADE violin, bow and case. \$87. Old violins repaired. George Blatt, Box 213, Johannesburg, California.

NOW PROFIT finding buried treasure! Exciting handbook 25c. Locator literature free. Howe, D-3, 811 Kansas, Atchison, Kansas.

BEAUTIFUL FAN Leaf Palms. \$2 per year per palm. Write Ronald L. Johnson, Thermal, California.

Basin Lakes Accumulating Salt . . .

RENO — Three Great Basin lakes — Great Salt Lake in Utah, Mono Lake in California, and Pyramid Lake in Nevada—have been amassing salt for as much as 75,000 years, but a fourth body of water—Walker Lake in Nevada—has lost its salt content during the past 10,000 years. Wallace S. Broecker and Alan Walton, Columbia University scientists, recently studied the chlorine ion concentration in these lakes. Walker Lake, they explain, must at one time have dried up and lost its salt during the past 10,000 years, before reforming. — *Nevada Appeal*

Pre-Historic Fish Studied . . .

PYRAMID LAKE — Presence of Cui-ui fish indicate that Pyramid Lake retained some water at a point in the geologic past when nearby areas dried up. This is the conclusion drawn by W. I. Follett, curator of fishes at the California Academy of Sciences in San Francisco. The Cui-ui, still highly prized for food by Indians, substantiated earlier reports that Pyramid Lake had not gone dry when water disappeared from other Lake Lahontan areas.—*Nevada State Journal*

RENO — Members of the Great Basin Archeological Conference have elected Phil C. Orr, of the Museum of Natural History in Santa Barbara, California, chairman of the group for the coming year.—*Nevada State Journal*

NEW MEXICO

Litterbug Cost Rising . . .

SANTA FE—Litterbugs cost New Mexico taxpayers \$30,000 more this year than they did last, the state Highway Department said. It cost highway maintenance crews \$183,000 to clean the beer cans and other trash off the roads during the fiscal year ending June 30. Comparative figures show that similar clean-up operations cost the Highway Department \$150,000 during the previous year. The rise in cost is attributed to the substantial increase in traffic.—*New Mexican*

Mission Rebuilding Planned . . .

ESPANOLA—Indians of northern New Mexico's San Ildefonso Pueblo plan to rebuild their beautiful mission church, an architectural classic destroyed 54 years ago because of what the Indians now admit was a "horrible mistake." Constructed at the ancient village in 1711, the mission saw almost continuous use for 200 years. It was destroyed to make way for a new church. An estimated 80,000 adobe bricks will be used to reconstruct the mission.—*Grants Beacon*

New Site for Martyrs' Cross . . .

SANTA FE—A 5.5 acre tract has been presented to the Archdiocese of Santa Fe by Patrick J. Hurley for development into a Franciscan Martyrs Park. A 35-foot timber cross will be erected at the site as a new "Cross of the Martyrs," and as the terminus of the annual Fiesta de Santa Fe Candlelight Procession, a church spokesman said. The site of the present Cross of the Martyrs was deemed inconvenient for the procession.—*New Mexican*

Damage by Bears Reported . . .

TAOS—Numerous reports of bear damage, mostly in the Midnight, Costilla and Taos Canyon areas, were received this summer by Conservation Officer Tom Holder. In every case, permits to kill the intruders were issued. The unusually dry summer was thought responsible for the bears invading valley farms for food. — *El Crepusculo*

Vandals Defacing El Morro . . .

GRANTS — The National Park Service reports that several persons of late have carved their names on the great stone, El Morro (*Desert*, July, '58), that has served as a landmark for travelers for centuries. El Morro National Monument was set aside as a historical shrine because persons left their names carved on the rock for over 300 years—but it is now against the Federal law for the visitor to leave his name there.—*Grants Beacon*

UTAH

Flaming Gorge Hiring Begins . . .

DUTCH JOHN—A few skilled men are being hired for construction work at Flaming Gorge Dam from applications filed with the Arch Dam Constructors office at Dutch John. The company discourages applicants from going to the damsite in search of work, for only five to 10 men are expected to be hired per month for the next few months. Vernal Employment Office has been chosen as the clearing house for all applications through the U. S. Employment Service. Meanwhile, families are moving into the newly constructed facilities at Dutch John. The Utah State Road Commission has approved an access road from Vernal to Dutch John townsite, including a 12-ton suspension bridge. — *Vernal Express*

Dinosaur Funds Allocated . . .

VERNAL — The National Parks Service has allocated \$606,400 for improvements in Dinosaur National Monument during the 1959 fiscal year. The money will be used for road and trail improvements, building construction, employee housing and similar developments.—*Vernal Express*

Ancient Exodus Studied . . .

SALT LAKE CITY—University of Utah scientists who recently studied the ecology of the Colorado River region are piecing together evidence which they hope will give the answer to why the ancient inhabitants of Southeastern Utah made a mass exodus from the area in about 1300 A.D. Intensive study was made on plant and animal life on the theory that something might have happened to these sources of food, clothing, fiber and weapons that made it necessary for the Indians to seek a more favorable region.—*Salt Lake Tribune*

Four Corners Marker Asked . . .

BLUFF — The Utah State Aeronautics Commission approved a proposal by James Vercillino, director of the Arizona Aviation Authority, to place an air marker at Four Corners where Utah, Arizona, New Mexico and Colorado meet. It was pointed out that many people fly over the area looking for the Four Corners, but due to inadequate markings it is almost impossible to spot from the air.

Salt Lake Becoming Saltier . . .

GREAT SALT LAKE—The 1500-square-mile Great Salt Lake, without an outlet and losing water through evaporation, is becoming increasingly salty. Salt in solution is being washed into the lake by stream action to further increase the saline content, already estimated at 25 percent.—*Copper Era*



OUT OF THE PAST

Arrowhead Jewelry!
A "Lost" art revived! Earrings: Large, medium, small, \$2 pair. Obsidian black acetate. Necklace 18" chain, \$1.50. Bolo Tie; Large arrowhead, leatherette cord, \$1.50. Flint arrowhead making secret! Ancient methods. Illustrated. Guaranteed. \$1. (Dealers Inquire).
CHIEF BLACKHAWK
Box 564-DM, Kennewick, Wash.

KENT FROST JEEP TRIPS

Into the Famous Utah Needles Area
Junction of the Green and Colorado rivers; Indian and Salt creeks; Davis, Lavender, Monument, Red, Dark and White canyons; Dead Horse and Grand View points; Hovenweep and Bridges national monuments. 3-day or longer trips for 2-6 person parties —\$25 daily per person. Includes sleeping bags, transportation, guide service, meals. Write **KENT FROST**, Monticello, Utah.

Book Manuscripts Considered

by cooperative publisher who offers authors early publication, higher royalty, national distribution, and beautifully designed books. All subjects welcomed. Write, or send your MS directly.

GREENWICH BOOK PUBLISHERS, INC.
Attn: Mr. Slocum, 489 Fifth Ave., N.Y., N.Y.



1000 TRAVEL SCENES
COLOR SLIDES
FOR YOUR
VACATION RECORD

SPECIAL OFFER

To introduce readers of *DESERT* to our 2"x2" **COLOR SLIDES** for home projection, we are offering a **FREE** 20 page catalog and a **FREE** sample color slide. Travel, Science, Nature, National Parks and the southwest. Write today to —

KELLY D. CHODA
732 URSULA ST. AURORA 8, COLO.

You'll want to keep those

MAPS

which appear each month in *Desert Magazine* — maps which will be your guide on many delightful excursions into the great desert playground.

Attractive loose-leaf binders embossed in gold not only will preserve the maps, but will be a beautiful addition to your home book-shelf. Each binder holds 12 copies. Easy to insert, they open flat.

Mailed postpaid for

\$2.50

THE *Desert* MAGAZINE

PALM DESERT, CALIFORNIA

MINES and MINING

Bingham Canyon, Utah . . .

A Sioux City, Iowa, firm has been awarded a \$5,000,000 contract to remove 8,000,000 yards of waste overburden from the upper levels of the east and west sides of Kennecott Copper Corporation's giant Bingham Canyon Open Pit Mine. Western Contracting Corporation started the job, which is expected to take a year, in mid-October. An additional 17,000,000 yards of waste will be removed this year by copper corporation employees. —Salt Lake Tribune



EXPLORE FOR TREASURE!

Find gold, silver, coins, battle relics! M-SCOPE Treasure-Metal Locators. Guaranteed proven performance. Transistors, Fiberglass cases, lightweight. Also Geiger, scintillation counters, mineral lights. Free catalog. Easy terms. FISHER RESEARCH LAB., Inc. Dept. D-1, Palo Alto, Calif.

Las Vegas, Nevada . . .

Experiments recently completed in Las Vegas indicate that copper, cobalt and nickel in oxide ores can be separated by ammonia leaching and ion-exchange extraction in an economically-feasible operation. Originators of the new process are Luther L. Lawson, an engineer; and Walter R. Averett, chemist. Major features of the new recovery method are: precise automatic control system; purity of products recovered; ability to process complex ores and retain the values obtained; concentration of the product.

Garfield, Utah . . .

Plans for a \$500,000 expansion program centered around production facilities for new formulations of phosphate and ammonia fertilizers was announced by Western Phosphates, Inc.

Company officials said the expansion probably would result in about a 10 percent increase in the total volume of phosphate rock used in making the fertilizers.—Salt Lake Tribune

Salt Lake City . . .

A Salt Lake research agency is proposing application of a process used in water treatment zinc reduction which someday may prove a boon to independent miners of nonferrous metals in the West. Techmanix Corporation, which already has perfected and has operating its "infilco" process of continuous counter current ion-exchange in the uranium industry, is planning a pilot plant application of the system to reduction of zinc oxide ores.—Salt Lake Tribune

Winnemucca, Nevada . . .

Mining engineer Henry Ott of Round Mountain has acquired ownership of the Barber Canyon Placer Channel near Winnemucca. According to tests made on the two-mile-long channel by shaft sampling and churn drilling, 2,000,000 cubic yards valued at 80c a yard exist there. Ott plans to mine the ore by dragline dredge.—Tonopah Times-Bonanza

Prospectors' Headquarters

GEIGER COUNTERS AND SCINTILLATORS

The "Snooper" Geiger counter—model 108	\$ 29.95
The "Lucky Strike" Geiger counter—Model 106C	99.50
The "Professional" Geiger Counter—Model 107C	149.50
The "Special Scintillator"—Model 117	299.50
The "Deluxe" Scintillator—Model 111B	495.00

ULTRA-VIOLET MINERALIGHTS

Model NH—Operates on 110 AC only	14.75
Model M12—Operates on batteries only—with battery	40.65
Model SL-2537—Operates on batteries or 110 AC—without case and batteries	39.50
With No. 303 case and batteries	61.00
With No. 404 case and batteries	66.00

BOOKS

"Prospecting with a Geiger Counter" by Wright	.60
"Uranium Color Photo Tone"	1.00
"Uranium Prospectors Hand Book"	1.00
"The Uranium and Fluorescent Minerals" by H. C. Dake	2.00
"Popular Prospecting" by H. C. Dake	2.00
"Uranium, Where It Is and How to Find It" by Proctor and Hyatt	2.50
"Minerals for Atomic Energy" by Nininger	7.50
"Let's Go Prospecting" by Edward Arthur	3.50

MAPS

Map and Geology (Uranium and Mineral Districts of California)	1.50
Map of Kern County (New Section and Township)	1.50
Map Uranium and Minerals (The Nine Southwest States)	1.00
Book and Map "Gems and Minerals of California" by McAllister	1.75
Book and Map "Lost Mines and Treasures of the Southwest"	2.00

OTHER SUPPLIES

Mineral Hardness Test Set	2.25
Radiassay—Uranium Test Kit	14.95
Mercury—Detector Fluorescent Screen	6.75
Scheelite Fluorescent Analyzer	6.00
Fluorescent Mineral Set—10 Specimens—boxed	2.50
Mineral Specimen Boxes (35 named Minerals)	1.50
Prospectors Picks (not polished)	4.50
Prospectors Picks (polished)	5.00
12" Diameter Steel Gold Pan	1.25
16" Diameter Steel Gold Pan	1.70

All prices F.O.B. Los Angeles

Add 4% Sales Tax if you live in California

Member of American Gem & Mineral Suppliers Association

ALLEN LAPIDARY EQUIPMENT COMPANY

3632 West Slauson Ave., Dept. D Open Monday evening until 9:00 Los Angeles, Calif.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF—

DESERT MAGAZINE published monthly at Palm Desert, California, for October, 1958.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher Charles E. Shelton, Palm Desert, California. Editor Randall Henderson, Palm Desert, California. Business manager Bess Stacy, Palm Desert, California.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.) Desert Magazine, Inc., Palm Desert, California. Charles E. Shelton, La Quinta, California. Leonard A. Shelton, Claremont, California. Dr. Robert M. Shelton, Pasadena, California. Randall Henderson, Palm Desert, California. Eugene Conrotto, Palm Desert, California. E. W. Lightfoot, Pomona, California. Joe Turner, West Los Angeles, California.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) Desert Press, Inc., Palm Desert, California.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

CHARLES E. SHELTON
Sworn to and subscribed before me this 22nd day of September, 1958.

(SEAL) EVELYN S. MORRISON
(My commission expires November 3, 1958.)

DESERT MAGAZINE

Washington, D.C. . . .

Congress killed the \$485,000,000 mining industry subsidy bill—despite warnings by its sponsors that the U.S. mining industry faces destruction largely because of competition from cheaper foreign imports. Among other benefits to the domestic mining industry, the bill sought to establish a five-year plan to support prices of lead, zinc, fluorspar and tungsten, with the government paying producers the difference between market prices and "stabilization" figures fixed in the bill. It also called for bonus payments to producers of chromite, beryl concentrates and columbite-tantalite, three scarce metals.—*Nevada State Journal*

Boron, California . . .

Production of boron minerals and compounds increased five percent this past year to a total of 585,545 short tons valued at \$39,413,721. All production took place on California's Mojave Desert. Three firms produced boron minerals in 1957. American Potash and Chemical Corporation, and West End Chemical recovered boron minerals from the brine of Searles Lake at Trona; and Pacific Coast Borax mined kernite and borax from bedded deposits near Boron (*Desert March '58*), colemanite at Death Valley Junction, and ulexite from a deposit near Shoshone.—*Pioche Record*

Washington, D.C. . . .

The Atomic Energy Commission said it is stepping up purchase of uranium "to a limited extent." But, it repeated past warnings against "over expansion" of uranium production facilities. The AEC said the expansion of uranium purchasing "will provide an additional market for ore reserves developed prior to November 1, 1957." The Commission anticipated that its action would result in additional procurement contracts for mill concentrate, increasing total domestic milling capacity by about 3000 tons of ore per day and increasing annual concentrate production by about 2500 tons of U308.—*Pioche Record*

\$\$\$ TREASURE \$\$\$

New transistor metal detector finds lost or hidden treasure, coins, gold, silver, jewelry, relics. Profitable hobby. New underwater metal detector detects sunken ships, out-

board motors, etc., in 300 ft. of salt or fresh water. Operates from a boat. Scintillation counter. Free catalog.

GARDINER ELECTRONICS
DEPT. 9

2545 E. INDIAN
SCHOOL ROAD
PHOENIX, ARIZ.



Salt Lake City . . .

Financier Floyd B. Odum announced the details of a merger of various uranium holdings of Atlas Corporation into one large uranium firm with headquarters in Salt Lake City. Odum, Atlas president, said that its wholly-owned subsidiary, Hidden Splendor Mining Company, would be a publicly-owned firm. Atlas will continue as the largest shareholder, however. Atlas affiliates to be merged into the newly constituted Hidden Splendor Mining Co. are the 100 percent Atlas-owned Hidden Splendor Mining Co.; Lisbon Uranium Corp., about 76 percent owned; Rio de Oro Uranium Mines, Inc., about 61 percent owned; and Radium King Mines, Inc., about 30 percent owned. Also included in the merger is Mountain Mesa Uranium Corp. Odum will be chairman and chief executive officer of Hidden Splendor. Combined production of the merging companies was more than 250,000 tons of ore averaging .36 percent U308 during the first six months of 1958.—*Salt Lake Tribune*

Virginia City, Nevada . . .

Rod DeLaMare, owner of the only old Comstock Lode gold and silver mine with still-active underground mining operations, plans to launch a new milling operation adjacent to the mine entrance. During the summer

the DeLaMares conduct guided tours of their mine for tourists; their mining operation is carried on in the winter-time. The mill will use the old amalgamation method for recovering gold.—*Record-Courier*

Comparison Mineral Specimens

64 different 1" specimens, only \$6.00 ppd. Send for FREE details on above offer. PLUS 64 other 1" specimens, all available at 10 for \$1.00!

California customers add 4% sales tax

MINERALS UNLIMITED
1724 University Avenue, Dept. D
Berkeley 3, California

"OVERLOOKED FORTUNES"

IN THE RARER MINERALS

Here are a few of the 300 or more rarer minerals and gemstones you may be overlooking while mining, prospecting or gem hunting. Uranium, vanadium, columbium, tantalum, tungsten, nickel, cobalt, selenium, germanium, bismuth, platinum, iridium, beryllium, golden beryl, emeralds, etc. Some minerals worth \$1 to \$2 a pound, others \$25 to \$100 an ounce; some beryllium gems worth a fortune! If looking for gems, get out of the agate class into the big money; an emerald the size of your thumb may be worth \$500 to \$5000 or more! Now you can learn how to find, identify, and cash in on them. New simple system. Send for free copy "Overlooked Fortunes"—it may lead to knowledge which may make you rich! A postcard will do.

DUKE'S RESEARCH LABORATORY

Box 666—Dept. B
TRUTH OR CONSEQUENCES, NEW MEXICO

Find HIDDEN TREASURES

GOLD, SILVER, PRECIOUS METALS with the Famous Model 27 Metal Detector. Lightweight, ultra-sensitive, low cost. None finer. Also GEIGER COUNTERS for uranium and the VIOLITE for tungsten. INFORMATION FREE

BUY **Detection** "Superior" INSTRUMENTS
Often Copied — Never Excelled



METAL DETECTORS

Battery test switch • Head phones with clear signal • Great sensitivity
One nob control • Easiest of all to operate • Low cost operation

MORE ACCURATE, it's the first METAL DETECTOR designed SPECIFICALLY for detecting placer gold, nuggets, and other small metal objects. Depth range 7 feet—comes complete, ready to use.

MODEL 27—instructions included\$110.00

MODEL 711—with 21 ft. depth range.....\$138.50

MINERALIGHT—Complete line for \$14.95 up to.....\$114.00

Send for Complete Information

VISIT OUR NEW MINERAL DEPARTMENT, stocked with many outstanding specimens, including native wire silver from Honduras, S. A.

**LAPIDARY EQUIPMENT & SUPPLIES—TOOLS—GEMS—JEWELRY
CHEMICAL KITS, MORTARS & PESTLES—PICKS—BOOKS—ETC.**

**FOR THE WOOD WORKING HOBBYIST WE NOW STOCK A
COMPLETE LINE OF ATLAS AND PORTER CABLE POWER TOOLS**

(buy from an experienced wood worker)

Compton Rock Shop

1405 S. Long Beach Blvd.
Newmark 2-9096

Open Friday Evenings

3 blocks south of Olive
Compton, California

FUN with ROCKS and MINERALS
Ideal gift for rockhounds, hobbyists, Boy Scouts, Girl Scouts, and beginners. Get Petro-Polish kit for grinding and polishing rocks and gem stones by hand. With Petro-Polish you'll have "fun with rocks and minerals." Complete kit postpaid \$2.00 (4% tax in California).
HANSEN HANDICRAFTS
919 S. Monterey Ave., Monrovia, California

GEM TRAILS OF TEXAS

By Bessie W. Simpson

This is the first field guide written on Texas, and is selling beyond all expectations.

It has 40 full page maps and over 60 well-described locations for collectors of ROCKS, GEMS, MINERALS, FOSSILS, and INDIAN ARTIFACTS.

If your dealer or book store does not have it, order direct.

Price \$2.50 postpaid

Dealers write for discount schedule

GEM TRAILS OF TEXAS

Box 537

Granbury, Texas

ROCKHOUNDING Another Success Story



Mr. Bill Throp long known to his friends as **ROCKHOUND BILL** has opened a very fine supply shop known as **B&M Gems and Minerals**, 2961 State Street, Carlsbad, California. Associated

with Bill is Mr. Castoreno, former mayor of Carlsbad for many years. Mr. Castoreno is recognized as one of the West Coast's leading facet gem cutters.

You can get any gem cut in any size or style at B&M Gems and Minerals. Any item listed in Grieger's Encyclopedia can be purchased from Mr. Bill Throp.

Next time you are near Carlsbad drop in and see this new store. For many years Bill was just another rockhound who gradually developed a business in his backyard. YOU TOO CAN BUILD SUCH A BUSINESS IN YOUR LOCALITY. Bill says "The secret of my getting a business started was using GRIEGER'S ENCYCLOPEDIA from which to sell. They carry the stock for me."

Write: Please send me dealer information, if you'd like to handle our line on a resale basis.

GRIEGER'S Inc. Dept A52
Pasadena 4, Calif.

G E M S A N D M I N E R A L S

COMPTON CLUB PLANS "ADVENTURE IN GEMS"

"Adventure in Gems and Minerals" is the theme of the Compton, California, Gem and Mineral Club's show scheduled for November 1-2 at the Lynwood Community Center, corner of Bullis Road and Century Boulevard. There will be no admission charge, and free parking will be provided. Show hours are 10 a.m. to 10 p.m. on Saturday the 1st, and 10 a.m. to 6 p.m. on Sunday the 2nd.

One of the feature exhibits planned is Ralph Potter's finest and rarest mineral specimens from his Himalaya Mine. Other guest displays will include copper minerals owned by Jessie and Harvey Hardman; and E. P. VanLueven's Horse Canyon agate. Also displaying will be the Southern California Mineralogists, a Junior Club.

These shows also are scheduled for November:

November 1-2 — Sacramento, California. Mineral Society's show at Turn Verein Hall, 3349 J St.

November 7-11—Barstow, California. 3rd Annual Rockhound Roundup and Auction (11 miles west of Barstow).

November 14-16 — Calexico, California. Imperial Valley Gem and Mineral Society's show at De Anza Hotel.

November 28-30 — Barstow, California. Mojave Desert Gem and Mineral Society's annual Swap Days.

November 29-30—South Gate, California. Mineral and Lapidary Society's 2nd annual show at Civic Auditorium.

• • •

EASTERN FEDERATION ELECTS ELSIE WHITE

Elsie Kane White of Baltimore, Maryland, was elected the ninth president of the Eastern Federation of Mineralogical and Lapidary Societies at its recent convention in Asheville, North Carolina. Also elected were Dr. George F. Size of Murphy, North Carolina, vice president; Roy E. Clark of Newport News, Virginia, secretary; and Sam Brown of Newark, New Jersey, treasurer.

UTAH ACTS TO STOP PETRIFIED WOOD REMOVAL

State and Federal officials said action will be taken soon to prevent mass removal of valuable petrified wood from Southern Utah areas. The problem of protecting the rock has increased in the last few years, and State Parks Director Chester J. Olsen believes something must be done at once.

"In 10 years we won't have anything down there at all," he said.

Olsen has asked the U. S. Department of Interior to stop removal of the rock. A Federal spokesman said investigation of the situation will be made at once. Officials hope the petrified wood can be classified under the Antiquities Act, automatically placing it under protection.

Olsen said persons have been hauling the precious material off by the truckload in the Circle Cliffs area, about 40 miles east of Boulder, and in the area surrounding nearby Escalante.

Authorities said that if they cannot correct the situation through the Antiquities Act, they may be able to withdraw the areas from entry. Such a move would make it unlawful for anyone to enter the land unless they were merely passing through or sightseeing. Another possible alternative might be to declare the land as recreational areas.

Most of the land containing petrified trees is Federally owned. Some small areas are controlled by the state.—Ed McManus in the Salt Lake Tribune

• • •

Rock collectors who are also stamp collectors will be interested in a recent Swiss semi-postal issue featuring minerals and fossils. The 10-10 centimes stamp depicts a group of fluorite crystals; the 20-10 a coiled ammonite; 30-10 ammonite in matrix; and 40-10 crystal cluster of quartz.—Rolling Stone

• • •

Gem Quality thomsonite is found only on the north shore of Lake Superior and on Isle Royal. The color of this material is light to deep pink, usually marked with circles or ovals of green to black. —Siskiyou Gem

MOTEL CALICO

Is located in the center of the rockhounds' and photographers' rendezvous 9 miles East of Barstow, California, on Highway 91 at Daggett Road.

3.5 Mi. to Knott's Calico Ghost Town.....	(Minerals, Silver, Lead & Gold)
3.5 Mi. to Jasper Peak.....	(Red Jasper)
4 Mi. to Odessa Canyon.....	(Minerals, Agate & Copper)
4.5 Mi. to Mule Canyon.....	(Petrified Palm Root & Borax Crystals)
10 Mi. to Agate Hill.....	(Banded Agate)
15 Mi. to Fossil Beds.....	(Sea Fossils)
25 Mi. to Manix & Alvord Mts.....	(Palm Wood)
35 Mi. to Pisgah Crater.....	(Tumbled Gems & Agate)
40 Mi. to Lavi.....	(Jasper & Moss Agate)

Two people \$6 a night

Pets \$3 Extra

Four people \$8 a night

Tiled Kitchens available—Electric ranges and refrigerators. You rest in quiet insulated units three miles away from trains. Informative Brochure mailed on request.

Phone Barstow 3467

Box 6105, Yermo, California

SHOPPING FOR PRICE?

Immediate Delivery — Prepaid

KEY RINGS, 25mm. Finest quality	(6 for \$1.00
Snake Chain 1 1/2". Nickel Pl.	(12 for \$1.85
BRACELETS Fancy Pattern Link	(6 for \$1.00
Chain. Gilt or white pit. Complete	(12 for \$1.80
EARRINGS Plain Ball. Split	(6 pr. for 30c
drop. Gilt or white plate	(12 pr. for 55c
BELL CAPS 7 Point Gilt or white	(25c doz.
plate	(\$2.60 gross

Calif. Residents add 4% Sales Tax

Free Catalog showing all kinds of easy to use and inexpensive Jewelry Parts to make your own Necklaces, Earrings, Cuff Links, Bolo Ties, etc.

JEWELGEMS by JAY O'DAY

P.O. Box 6

Rancho Mirage, California

15th California Meteorite Discovered on Mojave Desert

The International Society of Meteoritics recently confirmed the finding of a meteorite that had fallen in the Mojave Desert, approximately five miles southeast of Ridgecrest. The meteorite, discovered last May 24 by Lee E. Humiston, an employee of the Naval Ordnance Test Station at China Lake, was designated the "Ridgecrest Meteorite," following a practice that has been adopted of naming meteorites after the postoffice nearest to the location in which they are found.

Humiston, who is a rockhound hobbyist, now enjoys the unusual distinction of having found four out of the total of 15 meteorites so far discovered in California. His other finds were made in 1936 when he was assigned to duty with the Air Corps at Muroc (now Edwards AFB). He found three at that time.

The Ridgecrest Meteorite weighs only about .34 of an ounce, and measures 25x10x10 millimeters in size.

According to a paper written on the

Ridgecrest Meteorite by Humiston, "it displays the typical features of oriented flight, being smoothly rounded on one side and flat on the other with evidences of fusion crust which flowed over the edges during flight. One end of the specimen was broken off, possibly on impact, as the surface shows no indication of a fusion crust. — *Indian Wells Valley Independent*

MAPS TO TEXAS COLLECTING AREAS

Forty professionally-drawn maps of Texas gem and mineral collecting locales highlight the new book, *Gem Trails of Texas*. A total of 45 locations in various parts of the state are described. The material in question is of the popular variety with rockhounds: agates, petrified woods, jaspers, fossils, etc.

The author, Bessie W. Simpson of Granbury, Texas, is a devoted amateur collector. During the past 10 years she has traveled approximately 100,000 miles in pursuit of her hobby. The first-hand knowledge gained of the best of the gem fields visited, is presented in this work.

This is a better-than-average gem guide book, and is bound to be of great aid to persons planning Texas collecting trips.

Published by Newman Stationery & Printing Company, Dallas, Texas; paper cover; maps; line-drawing and half-tone illustrations; 88 pages; \$2.50. This book may be purchased by mail from Desert Magazine Book Shop, Palm Desert, California. Please add 10c for postage and handling; California residents also add four percent sales tax.

HOW TO CLEAN MINERAL SPECIMENS

Here are some hints for cleaning mineral specimens:

Calcite matrix can be removed by placing the specimen in vinegar.

Mud is removed from gypsum crystals by soaking them for a day or two in water, and then brushing gently under running water.

Limonite stains on quartz crystals are removed by soaking for several weeks in oxalic acid solution (one cup acid to one gallon water).

Alcohol will clean water-soluble minerals such as salt.

Mineral oil has several uses: it is fine for preserving borax minerals from hydration changes; makes variscite a deeper green; and improves appearance of fluorites and calcites by filling cracks due to cleavage, and removing opaque appearance. — *Mineral Notes and News*

CAPTIVE TURQUOISE EARRINGS

Genuine Sleeping Beauty
Turquoise Nuggets

caged in gleaming silver-colored metal to form unusually fascinating earrings.

\$1 (post. & fed. tax paid.
No C.O.D., please.)

LOST MOUNTAIN GEMS

P.O. BOX 5012 — PHOENIX, ARIZONA



HIGHLAND PARK

THE LAPIDARY'S
STANDARD OF VALUE

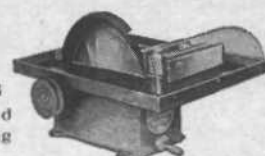
BUY THE BEST
FOR LESS

Congo Dia Blades — Sizes
Range from 4" to 24" in
Light, Standard, Heavy
and Extra Heavy duty.



Highland
Park
Trim Saws

Compact and
rugged for long
lasting service.



E-4 Trim Saw



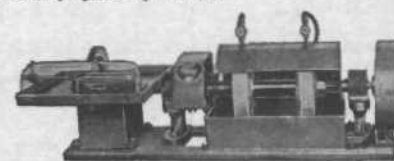
A Leader
In Its Field

Highland Park Power-feed
Slab Saws. Sizes range
from 12" to 24". Metal
or Lucite hood.

J-2 & J-3
Slab Saw

Highland Park Combination Unit

Available in all sizes. Perfect Combination
Unit for Lapidary work. Handles sawing,
grinding, sanding and polishing. Exceptionally quiet operation.



E-10 Combination Unit

Arbors of all sizes — Tumblers, two
models. Wet and dry belt sanders —
Lapidary units in two different sizes.

32 MODELS TO CHOOSE FROM

The most complete line of lapidary machinery offered by any manufacturer. See these at your local Highland Park dealer or write for free literature.

A Product of

HIGHLAND PARK
MANUFACTURING CO.

1009-1011 Mission Street
South Pasadena, California

NOTICE

to all our customers—

NEW SHOP HOURS: Open 9 a.m. to 5 p.m.;
open until 10 p.m. on Wednesdays; closed
Sundays and Mondays.

VALLEY ART SHOPPE

21108 Devonshire Blvd., Chatsworth, Calif.
Phone Diamond 8-4607

Here Are The Gifts
You've Been Looking For!

Petrified Wood, Moss Agate, Chrysocolla
Turquoise, Jade and Jasper Jewelry

HAND MADE IN STERLING SILVER

Bracelets, Rings, Necklaces, Earrings
and Brooches

SPECIALLY SELECTED STONES WITH
CHOICE COLORS AND PICTURES

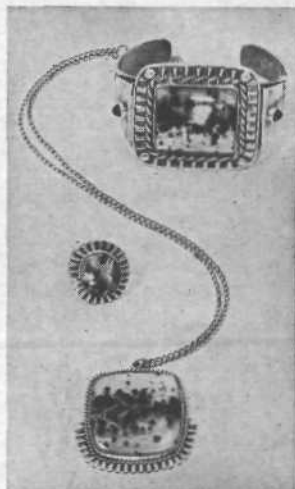
Write for Folder With Prices

ELLIOTT'S GEM SHOP

235 East Seaside Blvd. Long Beach 2, California

Across from West End of Municipal
Auditorium Grounds

Hours 10 a.m. to 9 p.m. Daily Except Monday



GEM MART

ADVERTISING RATE
12c a word . . . Minimum \$2.00

BOOKS - MAGAZINES

GEM HUNTERS Atlas. A whole book of detailed maps showing gemstone locations throughout the Southwest. Covers: Arizona, New Mexico, Utah, Colorado. This handy atlas really gets down to "brass tacks" for the rock collector. Price \$1 postpaid. Scenic Guides, Box 288, Susanville, California.

"GEMS & MINERALS Magazine," largest rock hobby monthly. Field trips, "how" articles, pictures, ads. \$3.00 year. Sample 25c. Box 687 J, Mentone, California.

THE BOOK of Mineral Photographs, 118 pages, octavo, over one hundred pages of excellent illustrations of fine minerals and rocks with descriptions. Indexed. \$1.68 postpaid. B. M. Shaub, 159 Elm Street, Northampton, Massachusetts.

CUTTING MATERIALS

DINOSAUR BONE. Gem quality colorful agatized, jasperized, opalized bone 50c pound. Also beautiful red lace agate \$1 pound. Postage extra. Gene Stephen, Route 2, Grand Junction, Colorado.

OPALS AND SAPPHIRES direct from Australia. Special — this month's best buy: rough Australian gem stones—6 assorted opals, 3 black star sapphires, 3 blue sapphires, 3 zircons, 3 garnets—18 gem stones airmailed for \$18. Send personal check, international money order, bank draft. Free 16 page list of all Australian Gemstones. Australian Gem Trading Co., 49 Elizabeth Street, Melbourne, Australia.

TURQUOISE—Exceptionally clean American water-worn nuggets in pure undyed natural colors and higrade solids. \$5 brings your choice postpaid 150 grams "good" or 125-g. "better" or 100-g. "best." Desertgems, Macatawa, Michigan.

WE ARE MINING every day. Mojave Desert agate, jasper and palm wood shipped mixed 100 pounds \$10.50 F.O.B. Barstow. Morton Minerals & Mining, 21423 Highway 66, R.F.D. 1, Barstow, California.

JUREANO WOOD, gem quality. 65c pound plus postage. Rates on 100 pound lots. Have large supply. A. B. Cutler, Box 32, Salmon Idaho. Slabs, tumbled, J. E. Cutler, Gearhart, Oregon.

TURQUOISE FOR SALE. Turquoise in the rough priced at from \$5 to \$50 a pound. Royal Blue Mines Co., Tonopah, Nevada.

CAVE CREEK JASPER \$1.50 pound or 4 pounds for \$5 postpaid. Sadler, 719 E. Moreland, Phoenix, Arizona.

CUT - POLISHED - TUMBLED GEMS

GENUINE TURQUOISE: Natural color, blue and bluish green, cut and polished cabochons — 25 carats (5 to 10 stones according to size) \$3.50 including tax, postpaid in U.S.A. Package 50 carats (10 to 20 cabochons) \$6.15 including tax, postpaid in U.S.A. Elliott Gem & Mineral Shop, 235 E. Seaside Blvd., Long Beach 2, California.

CALIFORNIA DESERT ROCKS. Gem quality. Polished. Large assortment. One dollar postpaid. Pollard, Route 1, Box 12, Lakeside, California. Gem Shop and Rock Yard, 427 Laurel St., Lakeside.

OPAL, AMETHYST, etc. 10 ringsize stones, ground and polished ready to set, \$5.00. Opals, deep red, blue, green, golden flashing in all colors of the rainbow, direct from the mine, 15 for \$5.00. Kendall, Sanmiguel d'Allende, Guanajuato, Mexico.

BOLA AND JEWELRY finding price list. Compare our prices before you buy. Please include 10c to cover cost of mailing. Dealers send resale number for wholesale list. The Hobby Shop, Dept. DM, P.O. Box 753, 619 North 10th Avenue (Hiway 30), Caldwell, Idaho.

"BAROQUE GEM stone kits" for schools, organizations, gift shops and home hobbyists. Earrings, necklaces, brooches, bracelets, bolos and keyrings, nickel or D.P.L. 60c a kit, 6 kit medium \$3.60 postpaid. Choice of stones, tigereye, moss agate, goldstone, blue or green jasper, and rhodonite. Discount on gross lots for larger users. Roy's Rock Shop, P. O. Box 133, Trinidad, California.

GEM STONES: 2 key rings; 2 pair earrings; 2 Western ties; 2 necklaces; 2 shirt corners; and 10 polished specimens. All for \$7.50, postpaid. Morton Minerals and Mining, 21423 Highway 66, R.F.D. 1, Barstow, California.

YOUR CHOICE

\$4 Value—Only \$1.50 Pair

If you visit our store

7/8" Matched Pairs for Cuff Links
1 1/4" Matched Pairs for Ear Drops
In either GOLDEN or CHERRY RED TIGEREYE. Gems have rounded surfaces with hi-gloss polish.

Mail Customers Send

\$1.66 Pair prepaid

Ask for free circular on sensational new gem material.

B&M GEMS AND MINERALS

2961 State Street, Carlsbad, California

MIRROR POLISHED gemstones — large variety. \$2.25 pound plus postage. State size. Spring Creek Agate Shop, Lewistown, Montana.

DEALERS

VISIT GOLD PAN Rock Shop. Beautiful sphere material, gems, mineral specimens, choice crystals, gem materials, jewelry, baroques, etc. Over 100 tons of material to select from. John and Etta James, proprietors, 2020 N. Carson Street, Carson City, Nevada.

ROCKS—opposite West End Air Base, agate, woods, minerals, books, local information. No mail orders please. Ironwood Rock Shop, Highway 60-70 west of Blythe, California.

DESERT ROCKS, woods, jewelry. Residence rear of shop. Rockhounds welcome. Mile west on U.S. 66. McShan's Gem Shop and Desert Museum. P.O. Box 22, Needles, California.

SHAMROCK ROCK SHOP, 1115 La Caden Drive, Riverside, California. Phone OVERland 6-3956. Specimens, minerals, slabs, findings, etc.

EQUIPMENT — SUPPLIES

ULTRAVIOLET LAMPS, equipment, accessories for mineralogists, prospectors, hobbyists. Free literature. Radiant Manufacturers, DM, Cambria Heights 11, New York.

MINERALS - FOSSILS

12 POUNDS OF beautiful Colorado mineral specimens, \$8.00 prepaid. Ask for list of others. Jack the Rockhound, P. O. Box 245, Carbondale, Colorado.

TWELVE NEW MEXICO minerals \$2.00; six fluorescents \$1.06; five crystallized minerals \$1.06; lists. Specimens, Winston, New Mexico.

21 MINERAL specimens set, including native gold, petrified wood, uranium ore, \$1.00. 18 specimens comparison gemstone collection, half rough, half polished, \$1.00. Mineral Lore, 3004 Park Ave., San Bernardino 3, California.

FOSSILS. 12 different for \$2. Other prices on request. Will buy, sell or trade. Museum of Fossils, Clifford H. Earl, P. O. Box 188, Sedona, Arizona.

NEW ENLARGED stock of foreign (European) and domestic crystals and massive mineral specimens awaiting your pleasure. Please ask for free list. Continental Minerals. P.O. Box 1206, Anaconda, Montana.

MISCELLANEOUS

WANTED—BROKEN desert glass. Deep color. State price per pound. Have swaps. C. Earl Napier "for rocks" at 1205 Wyoming St., Boulder City, Nevada.

HIGHEST CASH paid for old gold, jewelry, gold teeth, diamonds, watches, silver, rings, antiques. Mail articles today. Information free. Chicago Gold Refining Co., 6 E. Monroe, Dept. 175, Chicago 3.

REAL SEAHORSE EARRINGS

A fine and original gift! Hand painted in black, white, silver, dark blue, green, red and brown. Choice of screw type or pierced. Only \$2.50 per pair. Check or M.O. Tax and postage paid. Other unusual gifts, jewelry. Order from **THE SEA SHELL**, 3772 MISSION BLVD., SAN DIEGO 8, CAL. Dealer Inquiries Welcome





**MAKE EXPERT RINGS, BRACELETS
PENDANTS • JEWELRY
FROM STONES . . .**

LEARN FOR FUN
FOR PROFIT

**GEM MAKING
JEWELRY ARTS**

FULL OR PART TIME

Most fascinating, money-making hobby! Become a rock hound . . . find stones — convert them into "salable" masterpieces. Easy to do . . . work with your hands — hike the outdoors for profit.

GRIEGER'S NEW ENCYCLOPEDIA!
SENSATIONAL — JUST OFF THE PRESS

Here's the "how to do it" bible of the industry. Up-to-date, informative, easy to understand. Written and put out by the country's outstanding lapidary authorities.

320 PAGES . . . OVER 2000 PICTURES

. . . 30 ARTICLES . . . source data for everything you need. Only \$2.20 (includes postage) and our money back guarantee. Send for FREE detailed information on this authentic book. **FREE . . . FREE . . .** get your copy of the Big 16-page introductory **BULLETIN** . . . no obligation . . . **ACT NOW!**

GRIEGER'S INC. DEPT. A-70
Pasadena 4, Calif.

AMATEUR GEM CUTTER

By Dr. H. C. DAKE, Editor of The Mineralogist

Minerals like quartz and calcite, exhibiting a play of rainbow colors, are common and well known to all collectors. Cause of the colors is due to fractures within the material, creating an interference of light passing through. This can be produced artificially in crystallized material, but so far all attempts made to produce this by heat or other means, in the case of chalcedony (agate) have met with no success.

All Iris agate seen is a product of Nature. It has fallen to the lot of a very common semi-precious gem mineral, agate, to exhibit the iris or rainbow effect of seven distinct and brilliant colors better than any other mineral; some specimens seen are magnificent beyond description.

The more recent history of the development of iris agate is a most interesting one and credit for it is largely due to the work of amateur lapidaries. The material was found in the past, from time to time, by agate cutters, but no study was made of the material and practically no mention of iris agate can be found in any of the standard text books.

Iris agate has been found in a rather wide range of varieties of agate, but it is most likely to exist in material showing circular lines or banding, and particularly in chalcedony geodes having an inner layer of quartz crystals. Frequently in geodes the best and only lines of color will be found near the layer of quartz crystals.

However, many fine specimens have been found as translucent water-worn agate, showing no visible evidence of banding whatever. In all cases the better quality of iris is found in the nearly colorless and translucent agate, but there appears to be no criterion by which one may determine the presence of iris, other than by cutting and polishing a section of the material. The cutters that have worked with the material can by its general appearance, make a better guess than the inexperienced, but even the judgment of the experienced is far from infallible.

To best bring out the play of colors, iris agate should be cut at right angles to the lines of banding which carry the rainbow. If cut parallel with the lines, no colors will be seen. Very few specimens of iris agate over two inches square have been cut because the bands of color are curving, which makes it necessary to change the angle for each cut.

For some reason not yet learned, the greater part of material showing iris effect appears to have numerous fractures, which cause breakage before a large section can be cut. The more opaque material should be sliced thinner to best bring out the colors, but for best results no specimen or cut gem should be over one-sixteenth inch thick when it is finally polished. The more highly it is polished (both sides) the better will be the color play.

So far iris agate has been found in superb specimens at localities in Oregon, California, Montana, Nevada and Brazil, but it is altogether likely the material can be found

in your locality if agates, quartz geodes and massive chalcedony are available. Do not expect to find it in quantity, for from the evidence available it is not likely to occur in profusion anywhere, but all likely looking material is worth investigating as a fine large mass may yield the fortunate finder a number of superb cut stones.

* * *

Over the years a number of celebrated fossil hoaxes have appeared, including the well known ones of the famous Cardiff Giant, and the more recent one involving an early man skull. Perhaps the most interesting one is the hoax on Professor Johann Beringer of the University of Wurzburg in 1726.

Professor Beringer was one of the last to defend the Divine Origin theory of fossils. Among his many papers, he published an expensive and detailed book describing some curious fossils he had dug up. Many of these carried replicas of the sun and the moon, as well as ancient Hebraic words.

Actually these "divine" fossils were cleverly baked out of clay, and planted in the earth by his University students. All went well, with the good Professor as busy as a dog with his bone, until he discovered a fossil with his own name on it. He spent the rest of his life buying up copies of his book.

After the professor's death, his heirs reaped a financial harvest by selling all the books around the house, and then made a reprint which was in wide demand as a collector's item. These are still valuable collector's items.

* * *

Recent studies by S. C. Robinson of the Geological Survey of Canada confirm the validity of Owyheeite as a mineral species. The X-ray studies made by Robinson also indicate that another rare sulpho-salt, Warrenite, is identical to owyheeite.

Owyheeite first was described by Burton (1868) as argentiferous jamesonite. Later material from the same district of Silver City, Owyhee County, Idaho, was analyzed and described by E. V. Shannon (1920, 1921), who named it owyheeite, after the county name.

Owyheeite is a very rare sulpho-salt, carrying lead, silver and antimony. Owyheeite, and the identical twin mineral, warrenite, have been found in very few localities in the world, notably in the Poorman Mine at Silver City, Idaho, and the Domingo Mine, Gunnison County, Colorado.

Collectors who have visited the dumps of the old Poorman Mine, may have the rare owyheeite in their collections. It occurs in quartz gangue in massive to coarsely fibrous habit, and on country rock as masses of felted hairlike crystals coating crevices and fractures, according to Robinson. Some single crystals also have been found embedded in quartz. The mineral is light silvery gray, and frequently tarnished to a blue or yellow tint.

Covington DIAMOND BLADES

"Treat yourself to the best"

	Heavy-Duty Sup.-Chgd.	Stand. Chgd.	Super Chgd.
6"	\$12.35	\$11.25	
8"	17.90	16.40	14.85
9"	19.75		
10"	22.00	19.90	18.50
12"	31.90	28.30	25.75
14"	42.60	36.50	33.20
16"	49.20	43.45	39.50
18"	69.75	59.65	54.25
20"	78.10	65.70	59.75
24"	92.20	82.90	75.50
30"	179.10		
36"	267.60		

State arbor size—Send postage—Tax in Calif.



Free Catalog shows 17 Covington vertical type grinders and polishers.



6 Covington Trim Saws to choose from in latest Free Catalog.



Select any one of 7 Covington Slab Saws from latest Free Catalog.



Multi-Feature Lapidary Unit. Free Catalog shows 8 Covington Horizontal models.



BUILD YOUR OWN LAP and save. Free Catalog shows 13 Build Your Own Items.

USED BY THE U.S. GOVERNMENT
Send for latest Catalog showing Covington, the largest lapidary equipment line in America. IT'S FREE.

DEALERS WANTED
Covington Lapidary Eng., Corp.
REDLANDS D, CALIFORNIA

NEW SIXTH EDITION

ART OF GEM CUTTING

By DR. H. C. DAKE

A standard textbook for the amateur and commercial gem cutter since 1938—now revised and brought up-to-date to include the most modern techniques used in the lapidary arts.

New edition contains: 120 illustrations including many of latest gem cutting equipment; section on tumbling; detailed description of sawing, grinding, polishing, cabochons, facet cutting, specimen finishing, gem identification, sphere cutting, etc.

Paper cover; 128 pages

\$2.00

Please add 10c for postage and handling
California residents add
4 percent sales tax

Order by mail from:

DESERT MAGAZINE
BOOK SHOP

PALM DESERT CALIFORNIA

LEARN AT HOME — LAPIDARY

PROFESSIONAL "KNOW-HOW" FREE

ON FASCINATING PROFITABLE HOBBY

CUT GEMS — MAKE JEWELRY
PIECES FOR FUN — FOR PROFIT!
Start today... get acquainted with
the most thrilling hobby ever devised
— LAPIDARY. Learn to make expert,
professional-type rings, bracelets,
jewelry in your own home.
SEND for our FREE 16-page booklet
... detail data from the nation's leading
suppliers to the trade. NO OBLIGATION
write today to: GRIEGER'S, Inc. Dept. 69
1633 East Walnut, Pasadena 4, California.



By RANDALL HENDERSON

BIOLOGISTS HAVE estimated that at least 90 percent of the creatures living on this earth are insects. They multiply at a prodigious rate and mankind must wage a constant battle to protect his food and fiber supply against their ravages.

This being true, I find it hard to reconcile myself to a state law which permits dove hunting. This is open season for doves in Coachella Valley and the hunters have been out blasting away at sunrise every morning.

Those birds—nearly all birds—are man's best allies in the never-ending war against insect enemies. It is true insecticides have been developed which are very effective. But the chemists have to keep changing the formulas because the insects in a few generations will build up immunity to any chemical formula. There is another factor which should be kept in mind. Public health authorities have warned repeatedly that indiscriminate and mass spraying with the highly potent poisons now used to exterminate pest-insects may readily find their way into the human system, with very serious results.

Many states already have placed doves on the protected list of birds. It is to be hoped that before long public opinion in California will bring enough pressure on the state law-makers to insure protection for the birds in this state also. I am confident that at some future date, when the human species has advanced a little further up the ladder of evolution, we will adopt what is obviously the best answer—we will have our wildlife laws framed by ecologists rather than by politicians.

* * *

The first issue of *Desert Magazine* was published in November, 1937. We've now passed our 21st birthday, and grown from an initial list of 600 subscribers to a monthly press run of 34,000. My concept of the desert at that time was printed on the first page of the No. 1 copy. I wrote:

"There are two deserts. One is a grim desolate wasteland. It is the home of venomous reptiles and stinging insects, of vicious thorn-bearing plants and trees, and of unbearable heat. This is the desert seen by the stranger speeding along the highway, impatient to be 'out of this damnable country.' It is the desert visualized by those children of luxury to whom any environment is unbearable which does not provide all the comforts and services of a pampering civilization. It is the concept fostered by fiction writers who dramatize the tragedies of the desert for the profit it will bring them.

"But the stranger and the uninitiated see only the mask. The other desert—the real desert—is not for the eyes of the superficial observer, or the fearful soul or the cynic. It is a land, the character of which is hidden except to those who come with friendliness and understanding. To those the desert offers rare gifts: health-giving sunshine—a sky that is studded with diamonds—a breeze that bears no poison—a landscape of pastel colors such as no artist can duplicate—thorn-covered plants which through countless ages have clung tenaciously to life through heat and drouth and wind and the depredations of thirsty animals, and yet each season send forth blossoms of exquisite coloring as a symbol of courage that has triumphed over terrifying obstacles.

"To those who come to the desert with friendliness it gives friendship; to those who come with courage it gives new strength of character. Those seeking relaxation find release from the world of man-made troubles. For those seeking beauty, the desert offers Nature's rarest artistry. This is the desert that men and women learn to love."

Today, 21 years later, I would not change that word picture in any detail.

More than a million Americans have come to the desert Southwest to establish homes since that first editorial was written. Probably a majority of them came for economic reasons for there are many business opportunities on the desert frontier.

Many who came, I wish I could say all of them, have discovered that other desert—the desert of pastel shades, of shadow patterns on distant mountains, of hillsides where thorny plants bear flowers of rare beauty, the desert of peace and courage and reverence. They have felt a new sense of freedom in the immensity of our space, bounded only by distant horizons by day and a canopy of stars at night. They have learned the first names, and find comradeship in their neighbors of the native plant and animal life.

These are the people who look to *Desert Magazine* as both textbook and guide for their desert living and recreation, and their interest and loyalty have been a constant inspiration in my role as editor. I have had the privilege of meeting only a few of them personally, but in spirit I have had all of them as my companions when I am out on the desert trails—for I know that their quest, like mine, is always for greater understanding of the values that make for a good way of life. I am looking forward to many more years with these companions on the desert trails.

BOOKS of the SOUTHWEST

FIRST FULL-LENGTH ROY BEAN BIOGRAPHY

Judge Roy Bean may or may not be the kind of hero the Southwest can take pride in, but the fact remains hero he has become, and his legend grows with the passing of time. His "law west of the Pecos" left a great deal to be desired. It was based on the spirit rather than the letter of the law, and apparently this brand of justice sits well with Americans.

Every inch an authentic frontier character, Roy Bean was rough, tough, vain, slightly dissipated and imbued with a sense of humor. C. L. Sonnichsen, chairman of Texas Western College's English Department, wrote the first full-length Bean biography, *The Story of Roy Bean*, in 1943, and that book recently has been reprinted. Of particular interest is the light this work throws on Bean's early life, which included travels to Southern California.

Published by Devin-Adair Company, New York; illustrated; 207 pages; \$4.00.

ARIZONA MILITARY LIFE IN THE '80s

A popular field account of the Army's pursuit of the renegade Geronimo and his followers which was serialized in *Outing Magazine* in 1886, has been republished in book form under the title, *On the Bloody Trail of Geronimo*. The journal was written by Lt. John Bigelow, Jr.

Actually, the book's title is an over-dramatization. The very lack of stirring accounts of battle, of hand-to-hand combat (Bigelow and his men saw few Apaches—dead or alive) tells the real story of the Geronimo campaign: the Army simply hounded the Apaches from canyon to canyon, never letting up until the Indians surrendered from exhaustion.

Lt. Bigelow's day-by-day account of

the action against Geronimo, his description of barracks life, dealings with his men (he was an officer in a Negro regiment), off duty visits to border towns, etc., add up to a faithful portrayal of Arizona military life in the '80s.

Reproduced throughout the book are scores of the original pen-and-ink illustrations which accompanied the early magazine stories, including all but forgotten sketches by the noted American artist Frederic Remington.

Published by Westernlore Press as XII in its Great West and Indian Series; with foreword, introduction, notes and editing by Arthur Woodward of the Los Angeles County Museum; illustrated; limited edition of 750 copies; index; \$7.50.

"POPULAR GEMOLOGY" BY RICHARD PEARL REPRINTED

Richard M. Pearl, associate professor of geology at Colorado College, has written a dozen books on earth science subjects. One of the most noted of these is *Popular Gemology*, published in 1948, and again available through a reprinting this year.

Popular Gemology is everything its title implies: gems and minerals for the layman—an accurate semi-technical treatment of the world of gems. Professor Pearl wrote this book for "the gem lover, the mineral collector, the jeweler, and the lapidary." He presents a broad view of the science, delving into its sorcery-tainted past,

and ending with chapters on luminescent and modern man-made gems. Other chapters deal with: recognizing gems; faceted gems; cabochon and carved gems; gems of the silica group; and gems with a genealogy.

Published by Sage Books, Denver, Colorado; selected reading list; index; line-drawing and half-tone illustrations; 316 pages; \$4.00.

Books reviewed on this page are selected as being worthy of your consideration. They can be purchased by mail from Desert Magazine Book Shop, Palm Desert, California. Please add four percent sales tax on orders to be sent to California. Write for complete catalog of Southwestern books.

WHERE WERE YOU . . . ON THE MORNING OF THE "SHORT DAY" — 78,000 YEARS AGO?

Before you call such a question absurd, read Dr. Robert D. Stelle's fascinating account of the birth of the FIRST and GREATEST CIVILIZATION the world has ever known.

When you read this unusual book, *THE SUN RISES*, will you lose all touch with reality and actually relive in memory a former life? Will you feel a kinship with Rhu Sol Ku, or Haltee, or Que Ong Lingh of the Chi Yans?

Will you find yourself wondering if the author himself could have participated in this early period of human history—been trained by more advanced Elders, as well as Great Beings from Venus and Mercury? To many, the now submerged Continent of Mu is still a mystery.

Could the 1000 mile-long mountain range discovered by the U.S. Navy and the University of California be proof of the "lost continent" of Polynesian legend?

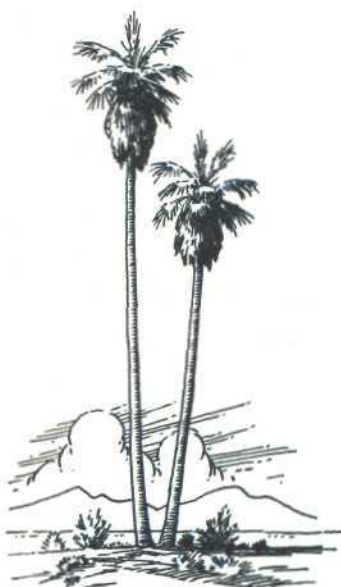
THE SUN RISES is not fiction, but an informative story woven about facts taken from Nature's infallible AKASHIC RECORD. Cloth bound 442 pages. Send \$3.00 for your post-paid copy of *THE SUN RISES* to:

LEMURIAN FELLOWSHIP
RAMONA 13, CALIFORNIA

DESERT BEST SELLER LIST*

1. *Goodbye, Death Valley*
L. Burr Belden \$1.25
2. *A Naturalist's Death Valley*
Edmund C. Jaeger \$1.50
3. *Ghosts of the Glory Trail*
Nell Murbarger \$5.75
4. *Geological Story of Death Valley*
Thomas Clements \$1.50
5. *Death Valley Scotty Told Me*
Eleanor Jordan Houston \$1.50

*Based on September sales by
Desert Magazine Book Shop



A NEW WORLD TO SHARE

With Family and Friends--

Desert

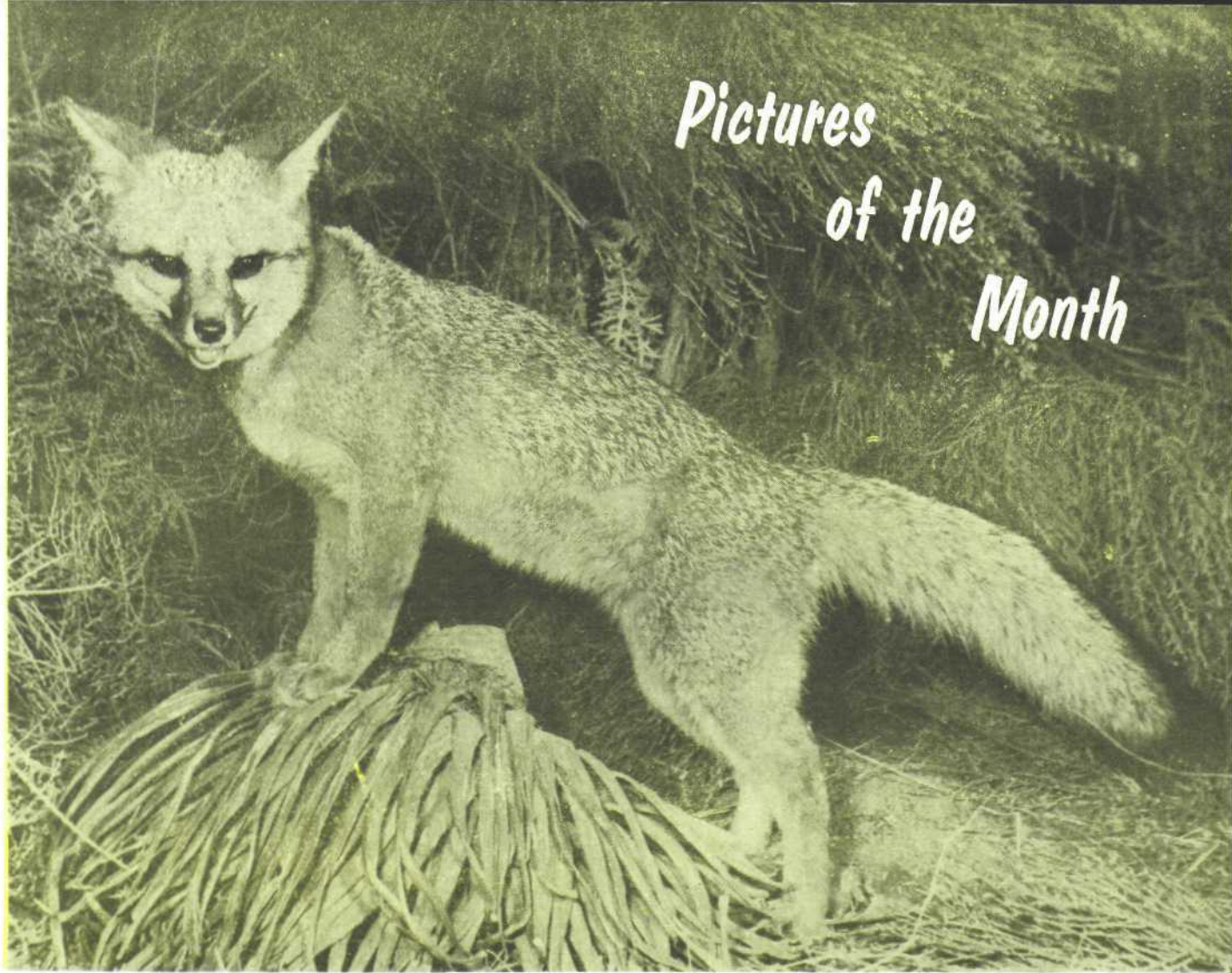
Give a Christmas Subscription Today

Desert Magazine is a thoughtful Christmas present that spreads its good wishes over the entire new year and for many years to come.

**USE THE HANDY ORDER BLANK
IN THIS MAGAZINE**

and a colorful gift card bearing your name will be delivered to the subscription recipient a few days before Christmas.

Pictures of the Month



Gray Fox

Western gray foxes, according to naturalist Edmund C. Jaeger, are far from being as cunning as their European cousins, the red foxes. "Indeed, they are so persistently and unsuspiciously foolish that they seem to be the dunces par excellence of the wild . . ."

This month's first prize photo was taken by Jack Novak of San Bernardino, California. He used a Rolleiflex camera; f. 16 at 1/1000 second.

End of the Line

"I feel this picture symbolizes much of the past of the West—a railroad track abruptly ending . . . The picture was taken at a railroad spur near Nutt, New Mexico." This is the story behind R. P. Melleski's second award photo. He is a resident of State College, New Mexico. Exposure was 1/50 second at f. 16, with green filter.

